

AC 4436(1) TORQUAY

BOROUGH OF TORQUAY.



# ANNUAL REPORT

OF THE

Medical Officer of Health

FOR THE YEAR 1927,

BY

THOMAS DUNLOP, M.B., C.M., D.P.H.

TOGETHER WITH SUMMARY OF

Reports of the Sanitary Inspectors

AND

Meteorological Observer.



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*To His Worship the Mayor, Aldermen and Councillors of  
the Borough of Torquay.*

LADIES AND GENTLEMEN,

I have the honour to present to you my Annual Report on the Sanitary circumstances of the Borough and the Health of the inhabitants during the year 1927.

The form of the Report is similar to that of previous years and contains a full record of the various activities which have a bearing on the health of the community. Although nothing of exceptional importance has occurred many matters have received attention which will ultimately prove of much benefit to the Borough.

Under Maternity and Child Welfare we record the change of the St. Marychurch and Babbacombe Centre to the commodious Parish and Memorial Hall, necessitated by the increased numbers attending here. This centre caters for a large number of parents residing in the Council's Housing Estates at Westhill and Hele. In view of the great importance of the work and if the numbers there continue to increase it may be necessary to consider the advisability of opening another Centre. Facilities for ante-natal work are not yet such as we desire, and I trust I may be able to record in the near future that the New Torbay Hospital will cater both for this and also provide accommodation for normal maternity cases. In view of the continued prevalence of Small-pox throughout the Country and the menace of its introduction by visitors it is satisfactory to know that definite arrangements have been made with the County Council Authorities for the reception of any cases that may occur here.

In view of the extension of the Borough in the Cockington and Shiphay area and the provision of sewerage, it will be possible to provide efficient drainage at the Isolation Hospital. Your Committee having decided on the provision of new administrative and ward accommodation, the plans are now in course of preparation. This also provides for the remodelling of the other sanitary arrangements. Another vast improvement will be the installation of electric light.

The reconstruction of the Refuse Destructor is now well in hand, this, when completed, in conjunction with the amended scheme of the Borough Surveyor for the collection of house refuse will do away with even temporary tipping, which is a menace to health on account of flies and rats.

The acquisition of powers to take an additional supply of water from the South Teign should render the district supplied free from all menace of shortage, even in the driest seasons.

Progress with the clearance of the Pimlico Insanitary Area has been slow, but as arbitration is at the time of writing to be held concerning certain properties necessary for the scheme, but not in themselves insanitary, the end is now in sight. The Council have made good progress with their Housing Scheme, 195 houses being completed and occupied. The total Council Houses erected to date is 381, in spite of this number there are still many applications from necessitous cases.

I have to thank my colleagues and members of the department for their assistance and hearty co-operation.

I have also to express my appreciation of the cordial support afforded to me by the Council, and especially by the Members of the Public Health Committee.

I am: Ladies and Gentlemen,

Your obedient Servant,

THOMAS DUNLOP.



## BOROUGH OF TORQUAY

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# STATISTICAL SUMMARY

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Area of the Borough, 3,996 acres.

Assessable value, £243,847.

Population—Census (1911), 38,772.

„ „ (1921), 39,432.

„ Register-General's Estimate for Statistical Purposes for 1927, 37,400.

Number of separate occupiers—Census (1921), 8,882.

Density of population, 10·2 persons per acre.

Corrected death rate (1927), 16·2 per 1,000. Average for previous five years, 15·6 per 1,000.

Corrected for age and sex distribution, 11·8 per 1,000.

Birth rate, 15·2 per 1,000. Average for previous five years, 14·4 per 1,000.

Infantile mortality (1927), 50. Average for previous five years, 55.

Death rate from zymotic disease, ·28 per 1,000.

Mean annual temperature, 51·8.

Hours of bright sunshine recorded, 1650·4.

Total rainfall, 36·57 inches.



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## BOROUGH OF TORQUAY.

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The area of the Borough is 3,996 acres.

### POPULATION.

The population recorded at the 1921 census was 39,432. Assuming the inter-censal increase to have continued, the estimated population at the middle of 1927 would have been 41,357. As many of the new houses which have been built have been purchased and occupied by families coming here from outside areas the population must be considerably higher.

For statistical purposes, the Registrar-General furnishes an estimated residential population equal this year to 37,400 and this figure has been used in the calculation of all birth and death rates.

At the 1921 census there were 7,758 inhabited houses, and the number of families or separate occupiers was 8,882.

The rateable value on 31st March, 1928, was £260,288, and the sum represented by a penny rate for year 1927-28 was approximately £1,008.

### PHYSICAL FEATURES AND GENERAL CHARACTER OF THE DISTRICT.

The town is situated on a promontory, being practically surrounded by the sea on three sides. This promontory is formed by hilly ridges, running N.E. and S.W. The principal heights—the Warberry Hill, 448 feet, and the Lincombe Hill, 372 feet—are composed of Lower Devonian grits and slates. The lesser heights, such as the Braddons, Waldon Hill, and Chapel Hill, are formed of Middle Devonian Limestone, which rests above the grits and slates mentioned.

On each side of this central area, viz., at St. Mary-Church and Chelston, rocks higher in the geological scale for the most part prevail. These rocks belong to the Permian formation, and consist of beds of Breccia—a kind of conglomerate—and sand stone of a deep red colour.

There is very little clay in any portion of the area, and what does occur is of the nature of marl, and is confined to the lower levels of certain valleys or depressions, so that rain is not detained on the surface, as it rapidly disappears through these rather pervious rocks and soils.

It is on the sides of these hills or ridges that most of the houses are built, the main roads and streets following the lines of the valleys. Thus the largest portion of the district is afforded protection from the cold winds of the North and East, a fact that is strikingly proved by the luxuriant growth of semi-tropical shrubs and plants in both public and private gardens.

Torquay is essentially a residential town and health resort; consequently a large proportion of its inhabitants are villa residents, while the remaining portion may be said to obtain a livelihood by catering for them. There are numerous large hotels and many up-to-date boarding houses for the accommodation of visitors. There are no manufactories in the district.

During the summer and early autumn there is a very large influx of visitors, who are catered for by the inhabitants of the smaller houses.

### CLIMATE.

The position of the town, built as it is on a promontory, surrounded on two sides by the sea, accounts to some extent for the mild and equable temperature experienced during winter. The meteorological records show that we enjoy a large proportion of sunshine at this period of the year. There is also an almost complete absence of fog.

The benefit of living under such climatic conditions must be apparent to all, but it is inestimable to those who are asthmatical or who are sufferers from chronic bronchitis. To the aged and infirm, who are extremely sensitive to every change of temperature, life under such conditions is prolonged and made worth living.

The bright sunshine and the possibility of being constantly in the open air, is most advantageous to children, and those who are delicate have every chance of growing up strong and healthy.

## THE SUMMER CLIMATE.

It is now an established fact that Torquay has become a most popular holiday resort, and during the season the population more than doubles itself.

It is unquestionable that, during the hottest days, the maximum temperature here is five to ten degrees lower than that recorded in London and the Midlands. It stands to reason, if one considers the position of Torquay, flanked by the sea and with Dartmoor in the rear, it is constantly fanned by cool breezes from one or other directions. It seems difficult to imagine a more delightful spot to spend a holiday in. Boating, bathing and fishing of the best, whilst in the neighbourhood are innumerable places of beauty and interest, which are easily accessible by sea, coach or rail.

## METEOROLOGY.

Full details of the Meteorology of the Borough will be seen in the appended Annual Report of the Borough Meteorologist, but the following resumé of the climatic conditions may be of interest :—

	1923	1924	1925	1926	1927
Highest Maximum Temperature ..	87·0	75·2	86·0	82·0	75·2
Lowest Minimum ..	28·1	27·0	26·6	26·5	26·5
Mean Maximum ..	57·7	56·6	57·2	57·8	57·0
Mean Minimum ..	46·3	46·5	46·4	47·0	46·7
Mean of Maximum and Minimum ..	52·0	51·5	51·8	52·4	51·8
Difference from Average ..	+0·7	+0·4	+0·2	+1·5	+2·73
Number of days on which rain fell ..	188	192	165	171	200
Total fall in inches ..	31·47	43·92	38·83	31·64	36·57
Number of Hours of Bright Sunshine	1827·59	1633·16	1822·02	1699·47	1650·4

## MEDICAL BATHS.

Within recent years the value of "Spa Treatment" has become more fully recognised, and the results of this form of treatment are exceedingly good in suitable cases, and especially when it can be taken where climatic conditions are propitious.

Torquay has a climate, both in summer and winter, which offers many advantages for invalids and others, and it also possesses an Establishment where all modern British and Continental methods of Spa treatment are available. It is in the unique position of being the only British Marine Health Resort with a complete equipment for Spa treatment.

Here it is possible for invalids to have their course of treatment without the risks inseparable from a Northern winter or the fatigue of a tedious Continental journey.

The Medical Baths at Beacon Hill are modern. All forms of baths, douches, packs, electricity, light treatments—also Plombières treatment—are administered by a highly skilled staff.

The dressing rooms are comfortably heated, furnished and equipped. There is plenty of light and every room in the building is well ventilated and kept scrupulously clean. There is also a large tepid sea water swimming bath.

No expense has been spared to ensure absolute comfort for the weakest invalid or for those who undergo treatment to keep fit and well. There is a lofty and well furnished cooling lounge where light refreshments can be obtained, and the view of Torbay from its windows cannot be surpassed. It is without doubt one of the finest cooling lounges in the kingdom.

## VITAL STATISTICS.

### DEATHS.

The total deaths registered in 1927 was 603, of whom 82 were non-residents, and whose deaths were transferable to their own sanitary areas, whilst the deaths of 88 residents dying outside the Borough have to be added. The net total is therefore 609, of whom 293 were males and 316 females.

The death rate is equal to 16·2 per 1,000, compared with 14·4 in 1926. The average rate for the previous five years was 15·6. The death rate for England and Wales in 1927 was 12·3, and that for the 155 smaller towns 11·3. As the age and sex distribution of Torquay differs widely from that of the country as a whole, it is necessary to use a factor to remove this inequality. The factor furnished by the Registrar-General is ·734, by which our rates must be multiplied. This gives a death rate equal to 11·8 per 1,000 per annum.

## Of the 609 deaths

		Percentage of Total Deaths	
29	were under 1 year of age ... ..	equals	4·8
7	were 1 year and under 2 years ... ..	„	1·1
8	were 2 years and under 5 years ... ..	„	1·3
8	were 5 years and under 15 years ... ..	„	1·3
13	were 15 years and under 20 years ... ..	„	2·2
51	were 20 years and under 45 years ... ..	„	8·3
137	were 45 years and under 65 years ... ..	„	22·5
356	were 65 years and over ... ..	„	58·5
<hr/>			
609	at all ages		100·0

It will thus be seen that 356, or 58.5 per cent., were persons aged 65 and upwards.

There were 21 inquests ; and 9 uncertified deaths were recorded.

## WARD DISTRIBUTION.

Ward.	Deaths at all ages.	Under 1 year.
Torre .. ..	70	2
Waldon .. ..	50	3
Upton .. ..	75	5
Ellacombe ..	110	5
Strand .. ..	50	3
Torwood .. ..	49	1
St. Mary-Church ..	81	7
Babbacombe ..	75	2
Chelston .. ..	49	1
<hr/>		
Totals ..	609	29

## DEATH FROM ZYMOTIC DISEASES.

The zymotic death rate is calculated from the seven principal zymotic diseases. The following table enumerates them and the number of deaths recorded from each :—

Small-pox	..	..	..	..	0
Measles	..	..	..	..	0
Whooping Cough	..	..	..	..	6
Scarlet Fever	..	..	..	..	1
Diphtheria	..	..	..	..	2
Fevers	}	Typhus	..	..	0
		Enteric	..	..	0
		Continued	..	..	0
Diarrhoea	..	..	..	..	2
					11

The zymotic death rate is therefore equal to .28 per 1,000, against .13 per 1,000 in 1926.

## BIRTHS.

The total number of births registered was 570—males 293, females 277. Of these 30, or 5 per cent., were illegitimate :—

	Males	Females	Illegitimate
First Quarter	69	72	6
Second Quarter	85	65	9
Third Quarter	67	77	9
Fourth Quarter	72	63	6
Totals	293	277	30

Twenty-three still births were notified, and the conditions investigated in most cases.

## WARD DISTRIBUTION.

	Males	Females	Illegitimate
Torre ...	27	24	3
Waldon ...	23	20	4
Upton ...	4	35	4
Ellacombe ...	55	49	4
Strand ...	22	21	3
Torwood...	15	9	2
St. Mary-Church ...	65	73	5
Babbacombe ...	25	22	2
Chelston ...	13	24	3
Totals ...	293	277	30



The birth rate for the Borough is equal to 15·2 per 1,000 per annum, against 13·7 in 1926. It is the highest rate since 1921. The average of the previous five years was 14·4. The rate for England and Wales in 1927 was 16·7 and for the 155 small towns 16·4.

In comparing our birth rate with that of the country as a whole or those of other districts, the age sex constitution of the population must be borne in mind. In Torquay we have a high proportion of females to males (1,474 females per 1,000 males), and of the female population some 40 to 50 per cent. are spinsters and are above or below the child bearing age; hence it is unreasonable to expect anything but a low birth rate.

#### INFANTILE MORTALITY.

There were 29 deaths of children under one year of age. This gives an infant mortality rate of 50 per 1,000 births. That for 1926 was 63, and the average of the previous five years 55. The rate for England and Wales in 1927 was 69 and that for the 155 smaller towns 68.

The following tables are of interest:—

TABLE A. *Showing the Births, Infantile Deaths, and Infantile Mortality for a series of ten years as compared with those of the country as a whole.*

Year	Total Births recorded.	Deaths of Infants under 1 year.	Infantile Mortality for the Borough.	Infantile Mortality for England and Wales.
1918	412	31	75	97
1919	531	25	47	89
1920	643	34	51	80
1921	542	44	81	83
1922	490	23	47	77
1923	488	24	49	92
1924	521	28	53	75
1925	513	33	64	75
1926	507	32	63	70
1927	570	29	50	69

TABLE B. *Showing the principal Causes of Deaths among Infants, 1918—1927.*

	1927	1926	1925	1924	1923	1922	1921	1920	1919	1918
Measles	—	1	—	—	1	—	—	—	—	3
Whooping Cough	3	1	4	—	—	—	3	—	—	1
Diarrhoea	2	2	3	1	1	1	8	4	1	2
Tubercular Diseases	—	1	1	—	—	—	1	—	—	—
Bronchitis	2	3	3	3	2	1	6	2	5	7
Pneumonia	1	5	5	3	1	2	4	2	1	3
Premature Birth	12	14	10	17	11	14	13	16	10	6
Other Resp. Disease										
Congenital Defects										
O.D.D.	6	4	3	1	—	—	2	1	—	—
All other cases	3	1	4	3	8	5	7	9	8	9
Totals	29	32	33	28	24	23	44	34	25	31

Full particulars, giving exact details of the causes of death, the age stated in weeks and months under one year, are given in Table IV., page 62.

## MATERNITY AND CHILD WELFARE.

The Devon County Council is the supervising authority under the Midwives' Act. There are ten midwives registered as practising in the Borough. Four of these belong to the Q.V.J.N. Association, three to the St. Mary-Church District Nursing Association, and three practice privately. There is no doubt that they provide a most efficient midwifery service for women of the working classes. The Town Council make an annual grant to these Associations to cover the loss sustained by the attendance of midwives on necessitous cases.

The supervision of midwives and the inspection of Maternity Homes is under the County Council. Now Parliament have passed an Act for the Registration and Inspection of Nursing Homes, also to be carried out by the County Council, with the proviso that a Local Authority administering the Maternity and Infant Welfare Act may apply for this latter duty to be delegated to them. Little or nothing is to be gained by such delegation. It would mean dual inspection as most Nursing Homes are also registered Maternity Homes. I have, on many occasions, strongly expressed the opinion that where local Authorities are responsible for the administration of the Maternity and Infant Welfare Act and possess a full time Medical Officer of Health, the whole of the above work should be in their hands. Supervision by the County Council must be of a detached nature, whilst if it was carried out by the local Authority, it would tend to keep them in close touch with the work of the Midwives and so enhance the benefits of Infant Welfare work.

## CONSERVATION OF INFANT LIFE.

The Notification of Births Act renders it compulsory for the parents, etc., to notify the birth of a child to the Medical Officer of Health within 36 hours of its occurrence.\* Each

year a number of parents neglect to carry out this requirement. This year the number was 19, against 26 in 1926.

Births registered—

(1) Live births, Legitimate	540	(2) Illegitimate	30	(3) Total	570
Births notified—					
(1) Live Births	512	(2) Still Births	23	(3) Total	535
(1) Notified by midwives		(2) Notified by parents and doctors			
(a) Live births	389	(a) Live births	-		123
(b) Still births	13	(b) Still births	-		10

About ten days after the birth of a child the Health Visitor endeavours to get into touch with the mother in those cases in which a visit is desirable or likely to be appreciated.

\*As soon as we ascertain that births have been registered but not notified, a letter is sent to the parents informing them of the neglect, and asking for particulars to be supplied.

Enquiries are made concerning the child, information given about our Welfare centres, and the mother encouraged to bring the child. In most cases subsequent visits are paid at increasing intervals; in some until the child comes under the supervision of the School Medical Department. The Health Visitor also investigates the history of still births, and assists the Medical Officer in the work of the Welfare Centres.

There can be no question that this is most valuable work, and must to some extent be credited with the great reduction in the infantile mortality since it was inaugurated. It requires great tact, a wide knowledge of working class conditions, and personal sympathy on the part of the worker. The greatest care is taken that there shall be no interference with the interests of the medical attendant in his patient. Indeed, numerous cases can be cited in which, through the instrumentality of the Health Visitor, infants have been taken to doctors for advice as to illness or defect which, but for her suggestion, would have been allowed to continue until they became urgent or produced permanent disability.

### HEALTH VISITOR'S REPORT, 1926.

Expectant mothers	First visits	78	Total visits	101
Infants under 1 year	"	516	"	1671
Children 1—5 years	Total individuals	901	"	1542
Still births investigated	"	—	"	20
Ophthalmia Neonatorum	First visits	6	Total visits	23
Miscellaneous visits	"	—	"	35
Cases out when visited	"	—	"	518
" removed	"	—	"	187
			Total visits	4097
Attendances at Welfare Centres	93			

Insanitary conditions found in 11 instances were referred to the Sanitary Inspectors.

Cases not considered necessary to visit	..	..	45
Visits considered unnecessary after first visit	..	..	21

In cases of removal particulars are transferred to the Medical Officer of Health of the district where the parents have gone.

Records of 36 such cases were sent to and 37 from other authorities enquired into, whilst 38 cases could not be traced.

Of the 442 mothers considered suitable to attend centres 231, or 54 per cent., have done so.

### PROVISION OF MILK TO NECESSITOUS MOTHERS AND INFANTS.

All applications for free supplies of milk under the Milk (Mothers and Children) Order, 1919—are enquired into by the Medical Officer of Health. In most instances full details of the family conditions are obtained by the Health Visitor; care is also taken to prevent overlapping with other charitable agencies distributing relief. I am fully satisfied that in many cases the provision of this milk has resulted in the saving of infant life in the times of necessity.

During the year there has been a very heavy demand for grants of milk, owing to a large increase in the number of unemployed. The Welfare Committee therefore considered it necessary to make application to the Minister of Health for sanction to a supplementary grant, which, on the furnishing of certain data, was allowed.

All milk supplied is Grade "A" Tuberculin Tested, a fact on which I consider the Maternity and Infant Welfare Committee are to be congratulated—as, indeed, are the Town Council for supplying it in all their refreshment rooms.

This undoubtedly increases the cost, but the use of such milk is most advantageous. Not only can the consumer be satisfied that it is produced under clean conditions and is free from Tubercule, but as it is supplied in bottles there is not the same risk of contamination in the home as when ordinary receptacles are used. Further the retailing of such milk by various dealers throughout the Borough encourages its use by persons able to afford it.

## INFANT WELFARE CENTRES.

The whole of the work is controlled by the Infant Welfare Sub-Committee of the Town Council, and the following three Centres have been established :—

- (1). Ellacombe Centre meets in the Primitive Methodist Hall, Market Street, on Fridays, from 2.30 to 4.30 p.m.
- (2). Market Street Centre meets as above on Mondays, from 2.30 to 4.30 p.m.
- (3). St. Mary-Church and Babbacombe Centre meets in the St. Mary-Church Parish Hall on Thursdays, from 2.30 to 4.30 p.m.

Until May, 1927, the St. Mary-Church and Babbacombe Centre met in the Furrough Cross Congregational Hall; but it was then possible to obtain the use of the new St. Mary-Church Parish Hall which has many advantages in the number of rooms and in the accommodation available. The new premises have been a considerable help in the working of the Centre, which has shown for some time a gradual increase in numbers, due partly to the new housing area of Barton and Hele.

At each Centre there is a Committee of Voluntary Workers, who meet at regular intervals, and make all the general arrangements. Much of the success of the work must be attributed to their efforts, and it is largely owing to their regular and unselfish activities that the Centres continue to increase and be so deservedly popular.

Tea is provided at the nominal charge of 1½d. per head, and the programmes include health talks, instruction in home nursing and the care of infants, and demonstrations of sewing, cutting out, and preparation of model garments and sets of clothing.

Dr. Simpson, Deputy M.O.H., attends each Centre, and is responsible for the medical arrangements. He is always assisted by either the Health Visitor, the Matron of the Queen Victoria Jubilee Nursing Institution, or one of the St. Mary-Church District Nurses.

Some idea of the scope of the work may be seen from the following figures for the three Centres combined :—

Admissions for the year	... ..	231
Attendances under 1 year	... ..	2,128
Attendances from 1 year to 5 years	... ..	2,639
Total Attendances for the year		<u>4,767</u>
Average attendance of children per session		33
Number of sessions (three Centres)		144

The majority of the babies are seen by the Medical Officer at each visit ; any defects are pointed out to the mother, and instructions given concerning diet and infant management in general. Emphasis is laid on the *preventive* nature of this work, and all cases requiring treatment for other than simple disorders are referred to private practitioners. It is not easy to define where this simple advice ends and the treatment begins, and it is only by the hearty co-operation of the local doctors that the most effective benefit to the child will result. Many cases, which would not otherwise reach him are sent to the private practitioner ; but it is not infrequently found that the parents are financially unable to call in their private doctor on all occasions, and would probably buy a patent medicine for the child, or use some other ineffective means of treating the case, until the illness becomes very acute. By advisory treatment at the Clinic in the *early* stage of the illness, much can be done in these cases ; and the criticism can scarcely be made with justness that the work of the private doctor is suffering on this score, for surely the one ideal aim of both clinic and practitioner is, after all, “ Infant Welfare ”—and the benefit of the child.

In addition to the cases referred for treatment to private doctors, it has been found possible to arrange all the School Clinic facilities for the necessitous pre-school children. Minor ailments, defective eye conditions, otorrhœa and similar conditions are treated if necessary at the School Clinic ; while several cases of enlarged tonsils and adenoids in pre-school children have received operative treatment at the Torbay Hospital. In addition all crippling conditions can be referred to the Orthopœdic Clinic, which is held at the School

Clinic each week, so that early and satisfactory treatment is obtained for these cases.

Dental Work.—By the kind co-operation of the Torquay Education Authority and the consent of the Ministry of Health, arrangements were made whereby the services of the School Dental Surgeon were made available for the examination and treatment of pregnant mothers and children under school age. One afternoon session is set aside for this work, and Miss Hunt in furnishing the numbers of those attending, states:—"The number of mothers and infants who have attended shows a small but steady increase each quarter. There is a wide field for work and good results should be obtained." Sir Frank Colyer, says:—"Speaking as a Dental Practitioner, I have no hesitation in saying that the main damage to the teeth of the school child and adult, is in a large measure attributable to neglect in pre-school days, and that if we could, during these early years of life, ensure a sound set of teeth, much of the trouble that has now to be dealt with in later life, would never exist." This acme of perfection can only be attained by constant and prolonged propaganda. It is difficult to persuade parents whose own teeth have in many cases been neglected, to take the necessary trouble and subject their small children to the discomfort of dental treatment. It is hoped that the rising generation of mothers who have been brought up to have regular attention to their teeth in school years, will be so educated up to it that persuasion will be unnecessary.

Miss Hunt records one case of extensive caries, in which she has advocated a course of internal medication of calcium, in the hope that it will render the permanent dentition more efficient.

The tabulated results for the year are as follows:—

Number of Cases	...	...	29
„ Attendances	...	...	54
„ Extractions (Permanent)			10
„ „ (Temporary)			18
„ Dressings	...	...	84
„ Fillings	...	...	9

## ANTE-NATAL CASES.

The importance of ante-natal supervision does not yet seem to be fully realised, but there are definite signs that this branch of the work is becoming by degrees more understood, more valued, and more appreciated. During 1927, 28 expectant mothers made 76 attendances; these cases are seen by appointment at the School Clinic, as there is no special ante-natal clinic yet established.

All the cases seen are referred, if requiring treatment, to private doctors; but it is certainly desirable, when the mothers can be sufficiently educated to appreciate it and to use it, to extend this part of the Child Welfare Scheme by the inauguration of a separate ante-natal session. For many of the risks to which the expectant mother is exposed can be minimised or entirely avoided by routine examination and treatment.

## SUMMARY OF NURSING ARRANGEMENTS.

Professional Nursing in the Home. (a) General.—Nurses of the Queen Victoria Nursing Association and St. Mary-Church District Nursing Association are available for this purpose, independently of the Local Authority. (b) For Infectious Diseases.—The Town Council utilises the services of the above Associations in home visiting of cases of Ophthalmia Neonatorum when instructed by the Medical Officer of Health.

Midwives.—The Council makes subsidies to the Jubilee Nursing Association and the St. Mary-Church and Babbacombe District Nursing Associations, towards their losses in attending necessitous women in their confinements.

Lying-in Accommodation.—There is no Institution in the Borough where mothers of the working classes can be received for ordinary confinement. The authorities of the Torbay Hospital, will, however, always receive cases of complication. The new Torbay Hospital buildings are now nearing completion, and as provision has been made for a maternity ward, it is hoped some definite arrangement will be made between the Management and the Maternity and Infant Welfare Com-



mittee for the reception of necessitous cases. When this is in being it should be possible to inaugurate an ante-natal clinic there, to the great benefit of expectant mothers.

#### PUERPERAL FEVER AND PUERPERAL PYREXIA.

In 1926, "The Public Health (Notification of Puerperal Fever and Pyrexia)" Regulations, came into force. During the year no notifications of Puerperal Fever were received, but a death occurred in May of a Torquay resident, outside the Borough, from Puerperal Sepsis, which was transferred in. Only one notification of Puerperal Pyrexia was received. It does not seem from this that the Ministry of Health's hope that by the clearer definition of these conditions, benefit would accrue to mothers by the notification of such cases.

#### OPHTHALMIA NEONATORUM.

Cases Notified.	Treated		Vision Un-impaired	Vision Impaired	Total Blindness	Deaths
	At Home	In Hospital				
4	2	2	1	2	0	1

Besides the above two suspected cases were discovered and were treated at home. The Health Visitor makes immediate enquiries, and in necessary cases treatment is carried out by the District Nursing Associations.

#### CHICKEN-POX.

In view of the continued prevalence of small-pox in England and Wales, chicken-pox was notifiable throughout the year; 57 being received.

#### NON-NOTIFIABLE INFECTIOUS DISEASES.

Whooping cough was responsible for six deaths, all under two years of age. Measles became prevalent towards the end of the year, but fortunately no deaths were registered from this disease.

The Head Teachers have instructions and are furnished with the necessary forms to notify me of all cases, or suspected cases, of any infectious sickness among the school children coming to their notice. Similarly, the Attendance Officers consult me about any suspicious cases.

### INFANTILE DIARRHŒA.

There were four deaths registered from this complaint, all being infants under two years of age.

### NOTIFIABLE DISEASES DURING THE PAST FIVE YEARS.

DISEASE	1923	1924	1925	1926	1927
Puerperal Pyrexia .. ..	—	—	—	1	1
Diphtheria .. ..	11	10	10	4	5
Scarlet Fever .. ..	110	84	41	25	33
Enteric Fever (including para-Typhoid) ..	1	4	—	4	1
Puerperal Fever .. ..	—	1	—	—	—
Pneumonia .. ..	7	14	7	23	24
Chicken Pox .. ..	105	75	34	46	57
Encephalitis Lethargica .. ..	—	2	1	2	1
Poliomyelitis .. ..	—	2	—	1	1
Erysipelas .. ..	11	5	7	10	4
Cerebro-Spinal Meningitis .. ..	—	1	—	—	—
Ophthalmia Neonatorum .. ..	1	5	1	5	4
Malaria .. ..	—	—	—	—	—
Pulmonary Tuberculosis .. ..	98	72	93	96	73
Other Tubercular Diseases .. ..	19	10	8	19	11

### HOSPITALS AND OTHER INSTITUTIONS AVAILABLE FOR THE DISTRICT.

Hospitals provided or subsidised by the Local Authority or by the Devon County Council—(1) Tuberculosis, “Whitecliffe.” This is the old Western Hospital, taken over by the County Council. It accommodates 45 patients. (2) There is no special Maternity Hospital, but the Authorities of the Torbay Hospital will admit urgent cases requiring operative treatment. (3) Rosehill Children’s Hospital. The Maternity and Child Welfare Committee subsidises one bed, and if vacant, can obtain the use of a second, at a cost of one guinea per week. This Hospital is situated on the Lower Warberry Road, and accommodates 30 patients.

The Borough Sanatorium or Isolation Hospital, Newton Abbot Road, consists of the Administrative Building—Scarlet Fever ward block, consisting of two wards, with four beds in each; and a Diphtheria ward block, two wards with four beds in each. There is also a private ward for one patient, with nurse's room attached.

The question of alterations and drainage at this hospital, referred to in my last report, has appreciably advanced during the year. In that report I mentioned that the whole subject was intimately connected with the sewerage of the surrounding area, which is in the Newton Abbot Rural District. There have been several conferences between the Rural District Council and the Torquay Town Council, which ultimately resulted in a proposal from the former that the Town Council should take in that portion of the area into the Borough. This was agreed to and application made to Parliament for a Provisional Order to do so. In order to prevent delay the Borough Engineer has prepared plans and estimates for a comprehensive scheme for the sewerage of the area, the sewers to connect with a pumping station near Scott's Bridge, the sewage being pumped through a rising main into the Borough sewers at Lawes Bridge. Further, he has also prepared plans for enlargements at the Hospital, including the remodelling of the sanitary arrangements and drainage of all the buildings. This will be submitted to the Minister of Health for sanction, and it is hoped the works will be proceeded with without delay. Instructions have been given for the installation of electric light throughout.

The financial statement for the year—April 1st, 1926 to March 31st, 1927—shows that the cost amounted to £935 10s. 9d.; the number of patients received being 30.

#### ENTERIC FEVER.

When accommodation is available the authorities of the Torbay Hospital admit cases of this disease.

#### COCKINGTON ISOLATION HOSPITAL.

During the year an agreement was arrived at with the Trustees of the Mallock Estate for us to terminate our lease

of this Hospital. Arrangements have been made with the County Council to receive any cases from this area at their hospital at Upton Pine, near Exeter.

### BACTERIOLOGICAL EXAMINATIONS.

Specimens from suspected cases are examined at the expense of the Town Council by Mr. Quant, of the South Devon Chemical and Bacteriological Laboratory, who reports that during the year he examined the following:—

Diphtheria	-	-	39	}	Positive	-	-	0
					Negative	-	-	39
Tubercular Sputum	-		46	} examinations	Positive	-	-	9
Enteric	-		—		Negative	-	-	—
			<hr/> 85					

In the Laboratory attached to the Health Department we have examined 16 specimens from inflamed or suspicious throats of children attending the elementary schools. Some specimens for other pathological conditions were examined.

### AMBULANCE FACILITIES.

The Corporation possess two Motor Ambulances and these are under the direction of the Medical Officer of Health. (1) A first class Daimler Ambulance, solely used for the transport of medical and surgical cases. We have had many letters of appreciation of the comfort of this vehicle and the satisfactory attendance provided. (2) A Ford Ambulance for the removal of infectious cases. This will in the near future be replaced with a more up-to-date ambulance. The ambulances are garaged at the Town Hall, and during office hours can be obtained by communicating with the Medical Officer of Health at his office, Telephone No. 3221. When the offices are closed, application should be made to the ambulance driver at his house, Telephone No. 7106.

Two trained members of the St. John Ambulance Brigade always accompany the ambulance as attendants.

## DISINFECTION.

Free disinfection is carried out in all cases of notifiable infectious disease, and also after the removal or death of consumptive patients. Rooms are first fumigated with formaline, and then the bedding is removed to the disinfecting station at the Isolation Hospital and subjected to steam sterilisation. The disinfector is a "Thresh" Current Steam Disinfector.

Full advantage is taken of the facilities, all cases where notifiable disease occurs being fully disinfected, and a very large proportion of Non-notifiable cases.

Where information has come to hand of houses, etc., infected with vermin, we offer to spray the rooms with disinfectants, and also to steam sterilise bedding or clothing.

## SMALL-POX AND VACCINATION.

No cases were notified. No vaccinations, either primary or re-vaccinations, were performed by the Medical Officer of Health. The accompanying table indicates the position of the district as regards vaccination.

Through the courtesy of Mr. Edwards, the Vaccination Officer, I am able to give the average results of primary vaccination for the years 1900 to 1926 :—

Years.	Total births registered	Successfully vaccinated	Insusceptible of Vaccination	Had Small-pox	Number of Declarations from conscientious Objectors	Died Unvaccinated	Postponed by Medical Certificate	Removed to other districts the Vaccination Officer of which has been apprised	Removed Address unknown	Percentage successfully Vaccinated	Excluding those who died Unvaccinated. Percentage
10 Years' Average 1900—1909	578	468	—	—	39	4	6	3	10	82	87
10 Years' Average 1910—1919	522	219	1	—	235	33	9	3	15	41	44
1920	686	271	2	—	340	35	11	2	20	40	41
1921	561	279	3	—	314	34	6	6	10	32	34
1922	526	215	—	—	277	22	2	5	2	40	42
1923	529	238	4	—	234	21	7	10	10	45	47
1924	549	259	1	—	230	29	7	3	15	47	52
1925	516	219	2	—	247	22	10	4	7	42	44
1926	530	196	2	—	279	29	9	5	6	37	39

In view of the prevalence of this disease throughout the country, this unprotected condition of the population is a serious menace.

## ENTERIC FEVER.

Only one case was notified. The patient was a young lady who came from London to Torquay for a holiday. The history proved that the patient had consumed mussels in London and within the incubation period. The case terminated fatally.

## SCARLET FEVER.

Thirty-three cases were notified as against twenty-five in 1926. They were all of a mild character, except one which proved fatal. There was some little doubt concerning the diagnosis in this case, the child dying after a convulsion within 48 hours of the first onset of the disease, but the doctor in attendance felt sure it was Scarlet Fever of a malignant type. No further cases were attributed to it.

## DIPHTHERIA.

Five cases of Diphtheria were notified, two of which terminated fatally. They were both of a severe type and there was some little delay in administering anti-toxin.

Anti-toxin is supplied by the Town Council for all suspected cases. I have made a practice of using it prophylactically for contacts.

## ERYSIPELAS.

Four cases were notified. No deaths occurred.

## ENCEPHALITIS LETHARGICA AND ACUTE POLIOMYELITIS.

One case of each was notified. The latter was an infant under one and died in a convulsion.

## TUBERCULOSIS.

During the year 73 cases of Pulmonary Tuberculosis were notified and 11 of other forms, against 96 and 19 in 1926. Thirty-three deaths were registered from Tuberculosis of the lungs and two from other forms. In addition there were 23 deaths of non-residents, which were transferred to their own sanitary areas. The death rate from Tuberculosis is equal to .93 per 1,000 per annum.

The following table gives the sex and ages of new cases, and deaths of Pulmonary Tuberculosis and other forms :—

NEW CASES AND MORTALITY DURING 1927.

Age Periods	NEW CASES.				DEATHS			
	Pulmonary		Non-Pulmonary		Pulmonary		Non-Pulmonary	
	Male	Female	Male	Female	Male	Female	Male	Female
Under 1 year	—	—	—	—	—	—	—	—
1 to 5 years	1	—	1	—	1	—	1	—
5 to 10 „	2	—	1	—	—	—	—	—
10 to 15 „	2	2	—	—	—	2	—	—
15 to 20 „	3	5	—	—	1	5	—	—
20 to 25 „	7	6	—	—	1	4	—	—
25 to 35 „	10	12	2	3	1	4	—	—
35 to 45 „	7	4	—	1	4	3	—	—
45 to 55 „	5	3	1	1	4	—	—	—
55 to 65 „	3	—	—	—	—	2	—	—
65 & upwards	—	—	—	1	1	1	—	—
TOTALS	40	32	5	6	13	21	1	—

Notifications of this disease received each week are furnished to the Devon County Council, and at the end of each quarter a statement is sent, giving particulars of all new cases and deducting deaths which have occurred, so that the approximate number of existing cases in the area is known. This is due to the fact that undoubtedly cases leave the district without our knowing it, and tubercular patients come, and unless urgent symptoms arise necessitating medical help, we are unaware of it. The Tuberculosis Officer furnishes me with particulars concerning the cases seen by him; there is thus fairly close co-operation.

The Devon County Council utilise “Whitecliffe” as a hospital for the reception of cases of tuberculosis which are not suitable for treatment at the County Sanatorium. Many of the transferable deaths occur at this Institution.

Free disinfection of rooms and bedding is carried out after death or removal of patients from houses in the Borough.

Under the Torquay Corporation Act, 1923, the Authority have power to disinfect compulsorily and cleanse infected



rooms and articles. It is also incumbent on all those having the management or control of premises where there is or has been a person suffering from Tuberculosis to notify the Medical Officer of Health. Under Section 75 the Authority has power to prevent persons in an advanced stage of the disease from being employed in the cooking or preparation of food for consumption for persons other than members of their own household. No cases have arisen necessitating action under this section, nor under the Public Health (Prevention of Tuberculosis) Regulations, 1925, or Public Health Act, 1925, Sec. 62.

#### CANCER, MALIGNANT DISEASE.

There were 69 deaths registered from the above cause.

The age and sex distribution is as follows:—

Age period	Under 30	30—35	35—45	45—55	55—65	65—75	Over 75	Totals
Males	1	—	—	5	10	7	3	26
Females	2	—	1	7	5	16	12	43
Totals	3	—	1	12	15	23	15	69

The death-rate from cancer is equal to 1·8 per 1,000 per annum.

It must be remembered that in Torquay the population contains a large proportion of persons of advanced years and of females over males than the country as a whole, hence it is only to be expected that the death-rate from cancer would be high.

#### VENEREAL DISEASE.

The treatment of this disease is supervised by the County Council. Although that Authority gives every facility for patients to attend the centres at Exeter, even to advancing the cost of railway fares in necessitous cases, yet the want of a local centre militates against successful action in combating this complaint. I am in hopes that when the New Torbay Hospital is in being, provision will be made for a treatment

centre to be established there. It will be somewhat anomalous to have a hospital treating both medically and surgically cases which are the result of neglect of early treatment, and which could be prevented if we had a suitable treatment centre.

### WATER SUPPLY.

The town supply is derived from upland surface gathering ground on the borders of Dartmoor, about 15 miles from Torquay. The extent of this area is 2,354 acres, and belongs to the Corporation. All inhabited houses and farms have been cleared from it, thus preventing any menace to the purity of the water. The water is also, as a further precaution, passed through mechanical filters. In this way all suspended material is removed; it is clarified, and the appearance considerably improved.

The total daily amount supplied was 2,192,630 gallons, or 34.3 per head for a population of 63,800. This includes Newton Abbot and a few villages on the line of the mains.

The total rainfall on the catchment area during the year was 49.21 inches. The average is 41.82 inches.

There are now three mains between the storage reservoirs at Tottiford and Torquay, varying in size from 9 inches to 15 inches in diameter. The new service reservoir at Great Hill was opened in the early summer. The supply there supplements the other town reservoirs and permits water to be supplied to houses at the highest levels.

### QUALITY OF THE WATER.

It possesses all the qualities of a good upland surface water. The watershed has been so protected as to make the possibility of pollution infinitesimal. It is also subjected to mechanical filtration, rendering it doubly safe, and removing any suspended peaty matter. It is extremely soft, yet contains sufficient lime and magnesia salts to prevent any solvent action on lead. It is in all respects one of the best domestic supplies in the kingdom.

Regular monthly analyses of the water are made, samples being taken from different areas in the Borough. The results vary very slightly; the following is a typical result:—

### RESULT OF CHEMICAL ANALYSIS.

Physical Characters—Very pale straw colour, clear, no odour or deposit.

Chemical Constituents					Expressed in parts per 100,000
Total Solids	..	..	..	..	7·0
Chlorides	..	..	..	..	1·6
Hardness	..	..	..	..	1·5
Nitrites	..	..	..	..	nil
Nitrates	..	..	..	..	·13
Free Ammonia	..	..	..	..	trace
Organic Ammonia	..	..	..	..	·007
Oxygen absorbed in 4 hours	..	..	..	..	·07

### EXTENSION OF GATHERING AREA.

In view of the continued increase in the number of houses erected within recent years in the area supplied and to safeguard themselves against any shortage through a period of drought, the Corporation promoted a Bill in Parliament, seeking powers to obtain an additional supply of water from the South Teign in the Parish of Chagford. This received the Royal Sanction in July. The South Teign derives its waters from an area completely moorland in character, very sparsely inhabited, none of the houses being in such proximity as to be a menace to the purity of the water. The intention of the Corporation is to construct a weir pool with weir and intake on the South Teign, and convey the water by a line of pipes discharging into the Trenchford reservoir on our present watershed. The levels permitting of this to be done. The approximate distance between intake and outfall being about 10 miles.

The great advantages will be that all this water will be subjected to mechanical filtration as is adopted with our present supply.

The Corporation have, with certain reservations, the power to take three million gallons of water per day.

The results obtained by chemical examination prove it to be an excellent upland surface water. It is extremely soft. The results are as follows :—

Physical Characters—Colour, faint straw; turbidity, clear; odour, nil; deposit, minute amount of vegetable matter.

	Chemical results in parts per 100,000				
Total Solids .. .. .	..	..	..	..	4.0
Chlorine .. .. .	..	..	..	..	1.2
Hardness .. .. .	..	..	..	..	.4
Nitrites .. .. .	..	..	..	..	nil
Nitrates .. .. .	..	..	..	..	.064
Free Ammonia .. .. .	..	..	..	..	nil
Organic Ammonia .. .. .	..	..	..	..	.0014
Oxygen absorbed in 4 hours at 80°F .. .. .	..	..	..	..	.022

## SEWERAGE.

The sewage of the whole district, and most of the storm-water, is conveyed to the main sewer in Fleet Street; that of the Strand, Torbay Road, Vaughan Parade, Victoria Parade, Beacon Hill, George Street, and Swan Street, being pumped into the main sewer. The main sewer is seven feet in diameter, and runs from Fleet Street to Hope's Nose, a distance of about two miles. The outfall is at such a level that the sewage is discharged at all states of the tide. No method of treatment is adopted, as the flow of current is out towards mid-channel beyond Berry Head, and does not under any circumstances return towards the bay.

The Borough Engineer, Major Garrett (under whose supervision all sewers are) has furnished me with the following particulars of new works carried out during the year :—

Babbacombe Road relief sewer—580 yards of 24in. pipes and 742 of 18in. This work has been carried out continuously throughout the year and should be completed at an early date.

In addition, 865 yards of 9in. sewers have been laid in Windsor Road, Hartop Road, Barton Road, Tor Vale, Shiphay Lane, Sherwell Hill, and at the Windmill Hill Housing Estate; also 610 yards of 6in. sewers in Happaway Road, Barton Road, Borough Road, and on the Housing Estate, Hele.

As mentioned in my remarks on the drainage of the Isolation Hospital on page 25, Parliament has now sanctioned the inclusion of the Shiphay area in the Borough, the appointed day being October 1st, 1928. This question has been settled partly on the grounds of sewerage, hence the Town Council have instructed the Borough Engineer to prepare a scheme for the efficient drainage of the area, and there is little doubt it will be pushed forward with little delay. With such a scheme in being the area will undoubtedly develop rapidly.

#### DRAINAGE OF HOUSES.

Much attention is devoted to this subject. Most of the villa residences, hotels, and large boarding houses have the best modern sanitary arrangements. The drains, except in a few cases where there are difficulties of levels, are all connected with the sewers.

#### COLLECTION AND DISPOSAL OF HOUSE REFUSE.

The removal of house refuse is undertaken by the Corporation and is under the direction of the Borough Engineer, who is responsible for its efficiency. In most parts of the town there is a weekly clearance, but in certain areas twice a week. In recent years motor transport has been gradually introduced, and now all horse haulage has been eliminated. This, together with the regular recording of the weight of material brought for destruction, has tended largely to improve the efficiency of the service.

The reconstruction of the destructor under the engineers, Messrs. Heenan and Froude, has proceeded without delay, and should be completed at an early date. This was necessitated by the great increase in the amount of refuse collected and by the fact that the old cells had become obsolete. A new approach and enlargement of the tipping platform will obviate congestion and facilitate stoking. The reconstruction of the destructor cells will allow of three cells being out of commission at a time, so that inspection and repairs may be carried out without closing down the whole apparatus, a proceeding which, in the past, necessitated the dumping of refuse for several weeks at a time, and was provocative of many complaints.

## THE STAFF.

The Medical Officer of Health is responsible to the Public Health Committee for the proper working of the department. He is also the Administrative School Medical Officer, in which capacity he is responsible for the medical inspection and treatment of elementary school children to the Education Authority, thus co-ordinating the two offices.

For the efficient carrying out of these duties he has the assistance of the following :—

An Assistant and Deputy Medical Officer of Health, the present official is Dr. J. V. A. Simpson. His principal duties are the medical inspection and such treatment of school children as is carried out at the school clinics. For this purpose he has the assistance of the School Nurse. He is also responsible for the conduct of the Infant Welfare Centres, in which work he has the assistance of the Health Visitor.

The Chief Sanitary Inspector is Mr. G. E. Body, who has under his direction a staff of three district inspectors and a clerk. For the routine work of inspection, the town is divided into three districts—Mr. Loveless having charge of the S.W. district, Mr. Thompson the S.E., and Mr. Fedrick the N.E. They all hold the certificate of the R.S.I. The supervision of food and meat is under the direct charge of Mr. Body, although the other inspectors visit both slaughter-houses, butchers', and other shops.

The Chief Sanitary Inspector reports as follows :—

As in the past every endeavour has been made to maintain our high standard of Meat and Food Inspection, and considering the many other important duties the staff have to carry out, great credit is due to them for the very efficient manner this responsible and difficult duty is performed.

The supervision of the slaughtering in the slaughter-houses just outside the Borough has at all times received the ready assistance of the traders concerned, notification of slaughter, both regular and emergency, has almost without exception been duly notified.

This inspection has, I feel sure, been of advantage to the town as well as to the trader. Although a good deal of time and travelling is necessary, subsequent trouble is avoided, as abnormal conditions in carcasses or organs is dealt with at the slaughter-house, the butcher being thus relieved of the responsibility of having unfit food in his possession at his shop.

The question of a public slaughter-house and Central Depôt for Meat Inspection, is still in abeyance. The necessity for this will undoubtedly become more urgent and costly as time goes on, and will eventually have to be faced.

The gradual urbanising of the more rural parts of the Borough and districts adjoining will mean probably the closure of some private slaughter-houses, hence butchers who require accommodation will have to go further afield or slaughter in premises quite unsuitable for the amount of the business carried on, or dressed carcasses will be purchased from rural districts or small towns where inspection, notwithstanding the Public Health (Meat) Regulations is not efficiently carried out; this is amply proved by the number of diseased pigs heads found in shops.

As the population of the town increases, the number of food purveyors will increase in proportion, with the result, that supervision will become more difficult. If a suitable public abattoir was provided, many traders would take advantage of the facilities offered, with the result, that centralized slaughtering and inspection in the course of a few years would be an accomplished fact.

During the period under review, 328 pigs heads were condemned, on account of Tuberculosis. Of these 99 were found in shops, showing an increase of 23·18% over last year. In only eight instances, was I requested to examine the heads and carcasses prior to sale, the remainder being found during the course of inspection by the District Inspectors.

Reference to the accompanying tables, shows the extent of our activities in this branch of our work.

Table A gives a list of the organs or parts of carcasses found diseased. The total number, 4026, is a decrease of 1·17% on that of the previous year, accounted for by the decrease in the number of unsound or bruised frozen or chilled meat found. Tubercular organs show an increase of 16·8%.

Table B shows the total number of carcasses inspected in the shops and slaughter-houses, here we have an increase of 40·8%.

Table D. This table indicates the number of carcasses actually inspected in the five slaughter-houses in the Borough. All show an increase in the numbers slaughtered, except in the case of No. 3, where there was a decrease of 47·16%. The total increase over 1926 was 11·57%.

Table E gives the number of carcasses inspected in the rural slaughter-houses under my supervision, as arranged with the Newton Abbot Rural District Council and the Butchers concerned. Here again an increase of 4·3% is shown.

Table F shows the number of carcasses examined in slaughter-houses and shops in the town. The increase in the former is 9·6% and the latter 62·5%. Those inspected in shops include frozen and chilled meat carcasses, whilst many home-killed carcasses would have been previously inspected in the slaughter-house, but until we have some recognised form of marking, dual inspection can hardly be avoided.

Table G gives the weight of food destroyed, compared with 1926. The total weight shows a decrease of 12 tons, but in 1926, we had surrendered a cargo of 10 tons of cabbages and potatoes, so this reduces the decrease in other foods to 2 tons.

Table H shows the percentage of carcasses found to be affected with Tuberculosis in the slaughter-houses. Those found in shops are not included, as there is difficulty in ascertaining the true percentage as stated above.

Table I gives the number, weight and places where diseased or unsound food was found, and table J shows type of food destroyed.



TABLE A.  
DISEASED OR UNSOUND FOOD DESTROYED.

Organs, etc. Destroyed.	DISEASES.												
	Tuberculosis.	Flukes.	Cirrhosis.	Abscess.	Cysts	Strongyli.	Inflammation.	Pleurisy.	Injury.	Actinomycosis	Unsound.	Others.	Totals.
Beasts : Lungs ..	6	—	—	6	1	—	2	—	—	—	—	—	15
Livers ..	3	100	71	2	—	—	—	—	—	—	—	1	177
Tongues ..	—	—	—	—	—	—	—	—	—	—	—	—	—
Heads.. ..	4	—	—	—	—	—	—	—	—	—	—	—	4
Carcases ..	2	—	—	—	—	—	—	—	—	—	—	—	2
Cows : Lungs ..	2	—	—	—	—	—	—	—	—	—	—	—	2
Livers.. ..	2	25	27	—	—	—	—	—	—	—	—	—	54
Tongues ..	—	—	—	—	—	—	—	—	—	2	—	—	2
Heads ..	1	—	—	—	—	—	—	—	—	2	—	—	3
Carcases ..	4	—	—	—	—	—	—	—	—	—	1	—	1½
Heifers : Lungs ..	5	—	—	2	4	—	1	—	—	—	—	1	13
Livers ..	6	110	78	3	—	—	—	—	—	—	—	3	200
Tongues ..	—	—	—	—	—	—	—	—	—	—	—	—	—
Heads ..	4	—	—	—	—	—	—	—	—	—	—	—	4
Carcases ..	3	—	—	—	—	—	—	—	—	—	—	3	6
Calf Carcase ..	—	—	—	—	—	—	—	—	—	—	—	2	2
Sheep : Lungs ..	—	—	—	50	118	959	124	74	18	—	12	5	1360
Livers.. ..	—	366	—	748	13	—	15	3	1	—	12	7	1165
Heads ..	—	—	—	—	—	—	—	—	1	—	7	—	8
Carcases ..	—	—	—	—	—	—	—	—	2	—	—	1	3
Pigs : Lungs ..	17	—	—	12	1	47	105	76	—	—	—	3	261
Livers ..	11	—	50	2	1	—	4	1	—	—	—	3	72
Heads ..	328	—	—	1	—	—	—	—	2	—	—	—	331
Carcases ..	—	—	—	—	—	—	—	1	—	—	—	3	4
Other Organs :													
Mesenteries ..	36	—	—	—	—	—	—	—	—	—	6	1	43
Spleens ..	6	—	—	—	—	—	—	—	—	—	6	2	14
Stomachs ..	9	—	—	—	—	—	—	—	1	—	—	1	11
Miscellaneous	8	—	—	4	2	—	1	2	4	—	9	9	39
Other Foods .. ..	—	—	—	2	—	—	—	2	—	—	23	4	31
Chilled or Frozen Meat	—	—	—	1	—	—	—	—	34	—	162	1	198
Totals ..	453½	601	226	833	140	1006	252	159	63	4	237	51	4025½

TABLE B.

*Carcases Examined.*

1926					1927
2180	Bullocks	...	...	...	3476
107	Cows	...	...	...	56
328	Heifers	...	...	...	497
17178	Sheep and Lambs	..	..	...	23244
4359	Pigs	...	...	...	6447
2630	Calves	...	...	...	3991
<u>26782</u>					<u>37711</u>

TABLE C.

*Carcases Destroyed.*

1 Cow	Physiced
$\frac{1}{4}$ "	Tuberculosis
3 Heifers	"
1 "	Fevered
2 " pts	Tuberculosis
2 " "	Unsound
4 Pigs	Septic Pleurisy
	Septic Pneumonia
	Swine Erysipelas
	Dropsy
3 Sheep	Bruised
2 Calves	Pyæmia—Unsound

TABLE D.

*No. of Carcases Examined in the different Slaughter-houses  
in the Borough.*

No.	Bullocks	Cows	Heifers	Sheep and Lambs	Pigs	Calves	Total	Visits.
1 ...	1	1	1	—	156	4	162	187
2 ...	16	16	20	484	88	39	663	198
3 ...	6	1	9	122	58	—	196	149
4 ...	85	14	78	773	174	91	1215	198
Abattoir ...	170	22	275	3463	1759	1124	6813	584
Totals ...	278	53	383	4842	2235	1258	9049	1316

TABLE E.

*No. of Carcasses Examined in the different Slaughter-houses outside the Borough.*

	Bullocks	Cows	Heifers	Sheep and Lambs	Pigs	Calves	Total	Visits.
A ...	6	—	12	120	8	4	150	124
B ...	34	—	8	308	181	25	556	131
C ...	24	—	34	249	31	—	338	89
D ...	30	1	16	244	48	12	351	66
E ...	102	1	42	1166	230	120	1661	158
Totals ...	196	2	112	2087	498	161	3056	568

TABLE F.

*Total number of Carcasses Examined in different Slaughter-houses and Shops.*

Slaughter-houses	...	...	12105
Shops	...	...	25606
Total	...		<u>37711</u>

TABLE G.

*Diseased or Unsound Food Destroyed.*

1926.					1927.			
Tons.	cwts.	qrs.	lbs.		Tons.	cwts.	qrs.	lbs.
13	3	3	17 $\frac{3}{4}$	Voluntarily surrendered	1	15	1	11 $\frac{1}{2}$
8	1	0	8 $\frac{3}{4}$	Surrendered (after inspection)	7	2	0	14 $\frac{1}{2}$
—	—	—	24 $\frac{1}{2}$	Seized	...	7	2	12
21	5	0	23		9	5	0	10

TABLE H.

*Percentage of Animals Inspected found affected with Tuberculosis.*

Bullocks	...	6 in 474	=	1.26%
Cows	...	2 in 55	=	3.63%
Heifers	...	6 in 495	=	1.33%
Pigs	...	328 in 2733	=	12.0%

TABLE I.

*Premises where Diseased or Unsound Food was found.*

Where	Seized	Weight lbs.	Voluntarily Surrendered	Weight lbs.	Surrendered on Request	Weight lbs.	Total Weight lbs.	Total Number
Shops ...	1	362	54	1424½	175	1258	3044½	230
Slaughter-houses	10	490	—	—	3643	14658½	15148½	3653
Siding ...	—	—	141	2533	—	—	2533	141
Other Places	—	—	1	2	1	2	4	2
Totals ...	11	852	196	3959½	3819	15918½	20730	4026

TABLE J.

*Type of Food destroyed.*

Nature of Food.	No. of Articles.	Weight.
Frozen and Chilled Meat	198	2891 lbs.
Fish (cases) ...	1	7 „
Tuberculous Meat ...	458	6891 „
Other Organs, parts of carcasses	3345	10836 „
Eggs—liquid—Rabbits, Ducks, Tinned Foods, etc.	24	105 „
	4026	20730 lbs.

## PUBLIC HEALTH (MEAT) REGULATIONS, 1924.

On the whole these Regulations are observed by those concerned. Failure to notify occasional slaughter and removal of organs within the specified period, have been the only matters to which attention has had to be drawn.

The question of the open as against closed windows is still a source of trouble. The less progressive continue to uphold the old customs of making their shop a harbour and refuge for dust and filth from the roads; while the more up-to-date and enlightened traders have long since realised, that dust and dirt means waste and a loss of income. Unfortunately a great number of housewives appear quite unconcerned as

to the purity of their food, dust cannot always be readily detected on some food stuffs, but the practical knowledge of the amount of dust that finds its way through the open window of their own home should be sufficient to convince them that foods exposed in an open shop window cannot be clean. Likewise that filthy pest, the house fly, is looked upon as a necessary evil for which there is no cure, forgetting that flies breed in filth, are attracted by filth, and during their daily peregrinations pollute everything they touch.

The protection of cooked foods, butter, cheese, etc., especially during the busy hours is perhaps difficult, but the provision of a glass screen fixed to the counter, should go a long way to protect the food from contamination, brought about by coughing or sneezing, whilst the use of an electric fan is effective in keeping the place clear of flies.

These may seem trivial matters, but when perishable food is concerned it is important for traders to comply with the regulations which are drawn up as the result of experience and scientific research.

### SLAUGHTER-HOUSES.

The following is the number of private slaughter-houses in use in the area at the dates mentioned :—

	In 1920	In January 1927	In December, 1927
Registered .. ..	2	1	1
Licensed .. ..	4	4	4
Total .. ..	6	5	5

The premises are visited daily, and on the whole are kept in a satisfactory condition, the quarterly lime-washing and the periodic cleansing of the slaughtering cradles giving most trouble.

The lack of cooling accommodation, necessitating the slaughter of animals in close proximity to those hanging up, is a great drawback and a strong argument in favour of the provision of a Public Abattoir.

#### DISPOSAL OF DISEASED AND UNSOUND FOOD.

All diseased and unsound food is, after condemnation burnt in the Corporation's Refuse Destructor.

#### MILK SUPPLY.

Registered dairymen number 75, and cowkeepers 10. These premises are inspected periodically and on the whole are satisfactory. The Milk and Dairies Order which came into operation on the 1st October, 1926, should go a long way to improve the conditions under which milk is produced.

During the year 377 visits were paid to the dairies, and 75 visits of inspection to the cowsheds, in addition, Mr. C. Masson, the Council's Veterinary Inspector, has made a quarterly examination of the cows. No cases of Tuberculosis was discovered and on the whole the cattle have been found in a very healthy condition.

Under the Milk (Special Designations) Order, 1923, we have

- (a) One producer and distributor of "Certified" Milk.
- (b) Thirteen licensed distributors of "Certified" and Grade "A" (T.T.) Milk.

Samples of Grade "A," "Certified" and ordinary milk were obtained and submitted to the Medical Officer for bacteriological examination and analysis.

The result of the bacteriological examination of the 61 samples are as follows:—

28 samples of "Certified" milk—*Bacillus Coli* was demonstrated in 1-c.c. of three samples and 6 in 1/100. The number of colonies varied from 200 to 19,200 per c.c.

21 samples of Grade "A" (Tuberculin Tested)—here *Bacillus Coli* was found in 12 samples in dilutions of 1/100 after 48 hours, and the number of colonies varied from 120 to 17,800 per c.c.

The chemical analysis of butter fat present ranged from 3·0% to 4·8%

As regards the Milk and Dairies Order, 1926, the majority of traders appear desirous of complying with the requirements. Failure to cover the milk and cream is the principal trouble. Here the dairyman is like the butcher, every care is taken in one direction to prevent soiling of the article but the good work is wasted and spoiled by exposing the food to the dust and grime of the streets. No doubt "custom" has much to do with it, especially is this so in the case of cooling the milk, many farmers still adhere to the old theory that cooling prevents the rising of the cream, whilst many dairymen allege that their customers refuse to accept cooled milk. Be that as it may, the sooner the consumer realises that cooled milk keeps longer and the farmer, that the milk must be cooled before dispatch, the better for all concerned.

## PUBLIC HEALTH (PREVENTION OF TUBERCULOSIS)

### REGULATIONS, 1925.

No cases were notified during the year.

When carcasses of animals showing tuberculosis are seen at the local slaughter-houses, steps are at once taken to ascertain where the animals are reared or purchased, these particulars being forwarded to the County Council.

### ICE CREAM.

The supervision of the premises where ice cream is made or sold, have again received special attention, as during the summer months a large quantity of ice cream is sold in the town. Practically every sweetshop, cafe and restaurant sells it in one form or other, while barrow vendors are numerous.

Considering the numbers carrying on this business, with one or two exceptions, care as regards cleanliness seems to be observed, and although B. Coli was found in 7 samples of the 11 submitted for bacteriological examination, the source of contamination in a number of instances arose, in my opinion from the use of separated cream in its preparation.

It seems desirable that there should be some form of annual licensing of both purveyors and the premises where ice cream is manufactured. Unsuitable premises could thus be eliminated.

**MILK AND CREAM REGULATIONS, 1912 & 1917**  
and  
**SALE OF FOOD AND DRUGS ACT.**

The Regulations are enforced by the County Police, who also take samples. Through the courtesy of Superintendent Eddy, I am enabled to give the following results:—

Samples taken.	No.	Result of Analysis.		Result of Proceedings (if any).
		Genuine	Not Genuine	
Samples of New Milk	54	54	6	<ul style="list-style-type: none"> <li>1 Fined 10/6 &amp; 14/6 costs</li> <li>2 Cautioned</li> <li>3 Fined 10/-</li> <li>4 Case dismissed</li> <li>5 Fined £3</li> <li>6 Fined 21/- and analyst</li> </ul>
Dripping ...	2	2	—	—
Scald Cream ...	1	1	—	—
Cheese ...	1	1	—	—
Flour ...	1	1	—	—
Scald Milk ...	2	2	—	—
Chocolate Banana ...	1	1	—	—
Margarine ...	1	1	—	—



## INSPECTION OF OTHER FOODS.

Close observation is made by the District Inspectors of food stuffs exposed in shops and hawkers' barrows. On several occasions, alleged unsound or diseased food has been brought to the Department for examination. Frequently the circumstances surrounding the case, such as the cooking of the food or length of time after purchase, etc., render it impossible for us to do much.

During the course of visits made to places where food is prepared, the occupiers in a few cases have had to be cautioned as to the lack of cleanliness, either of the premises or utensils. As a rule this is sufficient to ensure improvement.

Regular visits are paid in the early morning to the Fish Quay to inspect fish before distribution. Cargoes of potatoes and other vegetables are often landed at the harbour being brought over from Northern France.

### KITCHENS OF HOTELS, ETC.

Section 70 of the Torquay Corporation Act, 1923, empowers inspection of the above.

During the year we have inaugurated a form of Sanitary Certificate in connection with the kitchens and larders of these establishments.

A Schedule of Recommendations as regards light, ventilation, cleanliness, etc., is laid down, if such is complied with, a Certificate is issued, these operate for a period of 12 months. During the year 6 Certificates have been granted. Although the number of inspections fall below what was anticipated, some good work has been accomplished.

### FISH AND CHIP SHOPS.

There are 17 fish and chip shops on the register, and four hawkers' carts. Three licences for the establishment of this business were granted during the year.

### OTHER OFFENSIVE TRADES.

There is one tripe dressing establishment, this is visited several times a week. There are also seven marine stores on the Register. The accumulation of rabbit skins is usually the source of trouble with the business.

### RAG FLOCK ACT.

Eight samples of rag flock were obtained and analysed in the Public Health Laboratory. As the chlorine contents in no case exceeded the amount laid down by the Act, statutory samples were not obtained.

### CONTAGIOUS DISEASES (ANIMALS) ACTS.

The diseases scheduled are Foot and Mouth Disease, Swine Fever, Epizootic Abortion, etc.

Bacteriological examinations of the following specimens connected with diseases of animals were made:—Swine Erysipelas, two; Tuberculosis, four; Actinomycosis, one; Johne's Disease, one; Anthrax, one; Chilled Beef, three; Tame Rat, one.

In connection with one hindquarter of chilled beef the condition was most unusual, there being a distinct smell and flavour of orange. The various chemical tests for citric acid was carried out all giving a positive reaction but the mystery is, how the animal or the hindquarter became affected. It would have been interesting to have ascertained if the other parts of the carcass were also affected, but of course this was impossible, as in all probability another wholesale distributor handled them.

### SWINE FEVER.

Three outbreaks were notified during the year.

### PARASITIC MANGE.

No cases were notified.

## INSECT PESTS ACT.

No cases were reported or detected.

## RATS AND MICE (DESTRUCTION) ACT.

The supervision of rat infested premises is now part of the routine work of the Department, every encouragement is given ratepayers to notify us of the presence of these pests, as from a public health point of view, their destruction is of great importance, hence our activities are not confined to Rat Week, but continue throughout the year. Judging from the number of persons who have applied for poison or advice the public are beginning to realise the danger and damage caused by these rodents. Unfortunately there are still a few individuals who fail to take any steps to deal with the trouble, it is these few that are frequently the cause of areas already cleared, again becoming infested, but owing to the absence of the necessary legal proof the defaulters cannot be brought to book.

During the year 422 premises have been especially inspected and treated, whilst 1962 baits have been laid down.

## SANITARY CERTIFICATES.

During the year 22 premises have been inspected, and drains tested, and 21 Certificates have been granted. The requirements as regards fittings and method of construction has been revised and brought up-to-date, the suggesting of the use of iron pipes with caulked lead joints for the underground drains, has in many cases been carried out, owners as well as builders realising the advantages of this.

The number of Certificates granted shows a decrease on the previous year, on the other hand the length of new drains laid and new or additional sanitary fittings provided, are in excess of previous records, several large hotels and boarding houses have had their sanitary systems remodelled.

## SANITARY INSPECTION OF THE DISTRICT.

Here is given in tabulated form the various matters dealt with by the District Sanitary Inspectors, a large number of visits have been made with the Medical Officer of Health but as in many cases they have been visited previously by the District Inspectors they have not been recorded separately in the table.

## SUMMARY OF SANITARY INSPECTORS' WORK.

	S.W.	S.E.	N.E.	SEN.	TOTAL
Houses inspected .. .. .	182	35	62	47	326
Houses visited .. .. .	198	381	211	20	910
Special visits <i>re</i> insanitary area ..	31	16	9	—	56
Visits to Stentiford's Hill property ..	—	75	—	—	75
Visits to Westhill and Hele properties ..	—	—	95	—	95
Dirty premises limewashed and cleansed	—	3	—	—	3
Rooms disinfected .. .. .	81	63	46	—	190
Cases of overcrowding abated .. .. .	—	3	—	—	3
Defective floors repaired .. .. .	7	1	11	—	19
Water supply laid direct from main to tap over sink .. .. .	1	1	—	—	2
Defective yards re-paved .. .. .	3	4	2	1	10
Lighted and ventilated rooms .. .. .	—	2	—	—	2
External plastering repaired .. .. .	3	3	3	—	9
Internal " " " " .. .. .	1	9	17	—	27
Stoves repaired .. .. .	—	5	24	—	29
Coppers repaired .. .. .	2	2	16	—	20
R.W.P.'s and gutters repaired .. .. .	5	5	2	—	12
Nuisances from keeping fowls and animals	3	5	—	—	8
Ashbins provided for house refuse ..	14	14	97	—	125
Roofs repaired .. .. .	3	4	10	—	17
Handrails fixed .. .. .	—	2	9	—	11
Doors and door frames repaired or renewed	—	5	17	—	22
Windows repaired or renewed .. .. .	5	2	2	—	9
Yards and outbuildings cleansed .. .. .	1	2	1	—	4
Smoke tests applied .. .. .	155	535	129	5	824
Water " " " " .. .. .	87	144	52	14	297
New sets of house drains laid .. .. .	28	53	49	—	130
Defective house drains repaired .. .. .	21	34	27	—	82
Intercepting traps with fresh air inlets fixed .. .. .	21	33	18	—	72
Old "Masons" traps and other old types abolished .. .. .	21	13	17	—	51
Inspection chambers to drains built .. .. .	55	45	54	—	154
Drains ventilated at head of system .. .. .	31	38	26	—	95
Soil pipes fixed outside buildings and ventilated .. .. .	25	48	19	—	92
Iron and brick traps removed and earthen- ware gullies fixed .. .. .	65	56	70	—	192
Waste pipes from baths, lavatories and sinks trapped .. .. .	28	33	33	—	94
Choked drains cleared .. .. .	16	49	26	—	91
Defective w.c. cisterns repaired or new provided .. .. .	20	27	60	—	107
W.C.'s repaired and cleansed .. .. .	—	2	1	—	3
Glazed sinks fixed .. .. .	8	29	16	—	53
Lavatory basins fixed .. .. .	16	24	27	—	67

Housemaids sinks fixed .. ..	—	2	2	—	4
Houses closed as unfit for human habitation	5	3	1	—	9
Workshops visited .. ..	116	152	106	3	377
Workshop notices .. ..	37	46	24	—	107
Houses repaired .. ..	26	125	19	—	170
Sanitary certificates granted .. ..	6	9	6	—	21
Visits to piggeries .. ..	3	7	41	—	51
„ „ stables .. ..	32	19	21	—	72
„ „ common lodging houses .. ..	—	20	—	—	20
„ „ public elementary schools .. ..	30	4	28	3	65
Offensive accumulations removed .. ..	3	33	23	—	59
Nuisances from stables and manure pits abated .. ..	4	10	6	—	20
Miscellaneous .. ..	6	38	52	—	96
Inspections, rats and mice .. ..	8	410	24	—	442
Number baits issued, rats and mice .. ..	—	—	—	—	1962
Re-visits in connection with the above work .. ..	542	618	537	27	1724
Legal notices .. ..	—	—	—	—	64
Preliminary notices served .. ..	—	—	—	—	426
Letters and communications in connection with the work of the department .. ..	—	—	—	—	2148
Verbal notices .. ..	—	—	—	—	302
Written and verbal complaints .. ..	—	—	—	—	987
Slaughter houses visited .. ..	189	116	747	225	1277
Butchers shops „ .. ..	1084	1529	908	170	3691
Butchers carts .. ..	39	39	34	6	118
Fish Quay .. ..	—	16	—	98	114
Railway siding .. ..	14	—	—	61	75
Market .. ..	—	77	2	8	87
Other shops .. ..	18	36	79	24	157
Bakehouses .. ..	41	27	28	6	102
Fish and chip shops .. ..	26	22	15	1	64
Marine stores .. ..	15	1	—	2	18
Ice cream shops .. ..	32	88	44	—	164
Tripe boilers .. ..	—	—	106	—	106
Places of entertainment visited .. ..	9	28	—	—	37
Cafes, etc. visited .. ..	31	49	13	4	97
Carcases inspected .. ..	13085	10796	9825	4005	37711
Number of vessels inspected .. ..	—	179	—	—	179
Weight of food destroyed .. ..	—	—	—	—	20730
Visits to dairies .. ..	64	207	97	9	377
Visits to cowsheds .. ..	1	—	68	6	75
Disinfectant supplied .. ..	—	—	—	—	220
Public conveniences inspected .. ..	34	125	108	2	269
Caravans and tents inspected .. ..	4	—	2	—	6
Samples of milk for analysis, for per cent. of fat .. ..	—	—	—	—	36
Samples of milk bacteriologically examined .. ..	—	—	—	—	50
Samples of rag flock bacteriologically examined .. ..	—	—	—	—	8
Samples of ice cream bacteriologically examined .. ..	—	—	—	—	11
Meat and other foods bacteriologically examined .. ..	—	—	—	—	17
Bedding, etc. disinfected .. ..	—	—	—	—	1070

## PORT SANITARY INSPECTION.

As far as possible all trading vessels are boarded and inspected on arrival, special attention being paid to those from foreign ports as to the freedom of illness among the crews and presence of rats and other vermin.

Special attention has been paid to the ships carrying cargoes of vegetables, both as regards their condition and the cleanliness of the ship. All were found in a satisfactory condition.

The number of ships inspected has shown an increase of 70·9% on the previous year. There were 101 steamers, and 78 sailing vessels. 110 being British and 69 foreign. The cargoes carried were 12 Timber, 17 Coal, 36 Bricks, 29 Cement, 11 Sand, 12 Concrete Blocks, 2 Slates, 22 General Cargoes, 19 Potatoes, 15 Green Vegetables, and 4 Onions.

The question of rat infestation has again received special notice, the Master of every ship boarded is questioned as to the presence of rats aboard, but in only one instance were they known or suspected on board. In this case rat bait (Barium Carbonate) was laid down. From here the ship was taken to dry dock and overhauled, when some dead rats were found which were assumed to have succumbed from the poison laid down, since then no further cases have occurred.

As stated in previous reports, little trouble is experienced from these pests as the nature of the cargoes carried, the smallness of the boats, the absence of confined spaces and the short time that elapses between loading and unloading soon cuts short the career of any that find their way aboard.

Leaflets calling attention to the requirements necessary in order to prevent rats getting ashore or gaining access to the ship and offering assistance in case of rat infested ships have been handed to the officer in command when the ship is inspected.

Similarly handbills relative to the danger of venereal diseases and facilities for treatment are distributed among the crews of the ships.

No cases of illness were reported but one case of accident (burning) was admitted to Hospital.

I must say the vessels inspected have generally been found clean and in a satisfactory condition, this is borne out by the fact that in only two instances had attention to be called to the dirty conditions of the water closets. The state of affairs appeared to be brought about by the absence of flushing cisterns, but as the Captains informed us that other Port Authorities do not appear to require these fittings, the provision was not pressed.

During the year 1927 the amount of shipping entering the harbour is as follows :—

*Foreign—*

Steamers	...116	Tonnage	... 39,098
Sailing	... 36	„	... 1,956
Motor	... 35	„	... 1,776
	<hr/>		<hr/>
Total Ships	<u>187</u>		<u>42,830</u>

*Inspected—*

Steamers	... 21	Sailing and Motor	
		Ships	... 43

*Coastwise—*

Steamers	... 26	Tonnage	... 8,575
Sailing	... 36	„	... 397
Motor	...143	„	... 5,990
	<hr/>		<hr/>
	<u>205</u>		<u>42,830</u>

*Inspected—*

Steamers	... 78	Sailing and Motor	
		Ships	... 37

Making a total of 179 ships inspected.

## LEGAL PROCEEDINGS.

Only one summons was taken out during the year. This was in respect to the non-notification of repairs to drains, under Sec. 47 of the Torquay Corporation Act, 1923, but as the question of emergency was upheld by the Court, the case was dismissed.

## FACTORIES AND WORKSHOPS.

During the year, 377 Factories and Workshops were inspected which is 106 more than 1926.

With few exceptions the workrooms are kept clean and generally well lighted and ventilated and free from overcrowding.

Neglect to limewash at the specified time and the absence of a ventilated space between the water closets and the workrooms, are the principal matters calling for attention, these however are remedied as soon as the occupier's attention is drawn to the matter.

In two instances owing to the construction and position of the workshop it was found impossible to provide water closet accommodation, but arrangements were made for the use of either a public convenience or a workshop adjoining.

No cases of infectious disease has occurred in connection with Factory and Workshops.

## FACTORIES AND WORKSHOPS.

### 1. INSPECTION OF FACTORIES, WORKSHOPS, AND WORKPLACES. Inspections made by the Sanitary Inspectors.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
FACTORIES (including Factory Laundries) -	31	6	Nil
WORKSHOPS (including Workshop „ ) -	326	21	„
WORKPLACES (other than Outworkers' Premises)	20	---	„
Total - - -	377	27	Nil



## 2. DEFECTS FOUND IN FACTORIES, WORKSHOPS, AND WORKPLACES.

Particulars.	Number of Defects.			
	Found.	Remedied	Referred to H.M. Inspector.	Prosecu- tions.
*Nuisances under the P.H. Acts—				
Want of Cleanliness . . .	96	96	Nil	Nil
Want of Ventilation . . .	7	5	—	—
Overcrowding . . .	—	—	—	—
Want of Drainage of Floors . . .	—	—	—	—
Other Nuisances . . .	—	—	—	—
Sanitary Accommo- dation	Insufficient . . .	3	2	—
	Unsuitable or Defective	—	—	—
	Not Separate for Sexes	1	1	1
Illegal Occupation of Underground Bakehouses . . .	—	—	—	—
Total . . .	107	103	1	Nil

\* Including those specified in Sections 2, 3, 7 and 8 of the Factory and Work shop Act, 1901, as remediable under the Public Health Acts.

## THE PUBLIC HEALTH (SMOKE ABATEMENT) ACT, 1927.

This Act which came into force on the 1st July of this year should go a long way to improve the atmosphere of towns especially in the industrial areas.

With certain exceptions it applies to all trades and manufactories, and applies to any fireplace or furnace (except private dwelling houses) which does not as far as practicable, consume the smoke, soot, ash, grit or gritty particles arising from the combustible used therein.

Fortunately we have very few chimneys that are likely to give rise to trouble, but it would be as well if those firms that use boilers for raising steam, or where appliances are used for cooking and heating should consider the requirements of the Act with a view of providing proper plant for preventing the creation or emission of smoke, ash, grit, etc., and when provided to see it is maintained in a state of efficiency.

With a view to uniformity and as a guide to the inspectors, bye-laws similar to those adopted by other local authorities

should be put in operation as well as bye-laws respecting new buildings (Sec. 2 and 5 of the Act).

### THEATRES, PICTURE PALACES, ETC.

Periodical inspections have been made of the public places of entertainment with regard to the provision for sanitary conveniences, lighting and ventilation and general cleanliness.

Very little trouble is experienced in this regard as the proprietors recognise the necessity of adequate sanitary accommodation and cleanliness.

### LOCAL AND ADOPTIVE ACTS IN FORCE IN THE BOROUGH.

Practically all the Adoptive Acts and Regulations have been put in force by the Council, and where necessary bye-laws framed. The Local Acts are the Torquay Harbour and District Act, 1886, and the Torquay Corporation Act, 1923.

### HOUSING STATISTICS.

During the year the District Sanitary Inspectors have inspected 326 separate dwellings, 122 of these being under the Housing Act, 1925, while 26 notices were served to remedy defects found. In this direction there is still some difficulty encountered, many owners wish to obtain vacant possession of the premises either with a view to sale, or to relet at an increased rent, while many, no doubt, lack the necessary means to carry out extensive alterations or repairs.

Then again a number of tenants have very little regard for the rights of property, windows and doors are allowed to slam, leading to broken glass and loosening of the frames and plaster, drains and fittings are choked and knocked about, floors broken with wood chopping and internal and external plaster damaged, while cleanliness both in the house and person, receive scant attention. This is borne out by the experience of the Council houses, here no attempt appears to be made by the occupiers to do minor repairs, hence the cost of maintenance is a serious item during the course of a year.

During the period under review Closing Orders were made in respect to No. 3 Temperance Street, Nos. 1 and 2 Foundry Cottages, Swan Street, basement tenements Nos. 5 and 6 Happaway Court, and Cottage at rear of No. 6 Happaway Court, and 1 and 2 Osborne Cottages, Lower Union Lane, also a Cottage at Lawes Bridge.

As regards the latter, the Closing Order was held in abeyance as accommodation at the Council's Housing Estate at Hele was not available. A Determining Order was granted in respect to No. 6 Melville Street, and Demolition Orders served respecting the property, Nos. 101 to 111 Babbacombe Road. The question of the demolition of this block is under discussion.

For the twelve months ending December 31st, 406 houses were completed, of which number 295 approximately were suitable for occupation by members of the working classes, of these 195 were erected by the Town Council and the remainder by private enterprise, the majority of the latter were erected with a view of sale, but owing to the difficulty of finding purchasers a large number remain vacant, and any that could be rented are quite beyond the means of the working classes.

#### HOUSES ERECTED IN THE BOROUGH SINCE 1919.

Year.	By private individuals.	By Town Council.	Suitable for members of Working Classes.
1920	11	—	—
1921	20	86	91
1922	36	—	10
1923	67	48	98
1924	178	—	125
1925	359	31	331
1926	361	21	321
1927	211	195	295
	<hr/>	<hr/>	<hr/>
Totals	1243	381	1271

Thus out of the total of 1271 houses suitable for members of the working classes, 690 were "Subsidy" houses and 381 were erected by the Town Council.

The Town Council are at present building 20 more houses on the Windmill Hill Estate, but these are earmarked for re-housing those persons who will be dispossessed under the Pimlico Scheme.

It cannot be said that the provision of the above meets the demand for houses to rent. I have still a number of applications from persons living under difficult conditions, for houses. The Corporation do not at present contemplate erecting any more houses, and as there is not now the same demand for purchasing houses, private builders will either have to cease building operations or start erecting some to be rented—if so, I am afraid an economic rent will not be possible for most members of the working classes.

#### PIMLICO INSANITARY AREA.

The Ministry of Health have now sanctioned the clearance of this area. During the year the Public Valuer has been busy in the valuation of the site areas and definite bargains have been completed with the majority of the owners. There still remain certain properties, which were excluded as not in themselves insanitary, but yet are essential to be included in the scheme. From the sums demanded for compensation it will be necessary to resort to arbitration. This, I trust, will not be prolonged, as the area has become most dilapidated and overrun by rats.

#### TEMPERANCE STREET AND LOWER UNION LANE.

Most of this area has, during the year, been inspected and particulars of the premises obtained. In view of the possibility of having to recognise this as an insanitary area, and before issuing notices to owners to repair, the Health Committee have made a close inspection. They consequently instructed the Surveyor to inspect and report what in his opinion would be the most satisfactory method of dealing with it. A great difficulty to be overcome is the housing of the dispossessed. Many of the tenants are fishermen, coal lumpers, hawkers, etc., who can afford a few shillings for the rent demanded here, but a rent of 10/- to 12/- would be quite beyond them. In dealing with this area some solution of this difficulty must be found.

## VITAL STATISTICS OF WHOLE DISTRICT DURING 1927 AND PREVIOUS YEARS.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS.		Nett Deaths belonging to the District.			
		Un-corrected Number.	Nett.		Number.	Rate.	of Non-Residents registered in the District.	of Residents not registered in the District.	Under 1 year of age		At all ages.	
			Number	Rate.					Number.	Rate per 1,000 Nett Births		
1	2	3	4	5	6	7	8	9	10	11	12	13
1915	32520	482	490	12.4	543	16.6	59	92	41	83.6	576	17.7
1916	31540	449	459	13.3	554	17.2	65	53	43	93.7	542	17.2
1917	30685	389	401	11.7	562	18.3	88	80	26	64.8	554	18.0
1918	30710	407	412	12.0	597	19.4	85	110	31	75	622	20.2
1919	33374	517	531	15.2	501	15.0	60	63	25	47	504	15.1
1920	34703	643	657	18.6	505	14.5	57	62	34	53	510	14.7
1921	33660	533	542	16.1	529	15.7	73	69	44	81	533	15.8
1922	33690	495	490	14.5	581	17.2	66	77	23	47	592	17.5
1923	34100	503	488	14.3	532	15.6	68	52	24	49	516	15.1
1924	34940	514	521	14.9	548	15.6	75	84	28	53	557	15.9
1925	35070	508	513	14.6	533	15.2	70	65	33	64	528	15.0
1926	36990	505	507	13.7	546	14.7	80	70	32	63	536	14.4
1927	37400	571	570	15.2	603	16.1	82	88	29	50	609	16.2

TABLE II.  
 CASES NOTIFIED DURING THE YEAR 1927.

NOTIFIABLE DISEASE.	Number of Cases notified.							Total cases notified in each locality.							Total cases removed to hospital.			
	At all ages.	At Ages—Years.						Torre	Waldon	Upton	Ellacombe	Strand	Torwood	St. M.C.h.		Babbacote	Chelston	
		Under 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65											65 and upwards
Small-pox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diphtheria, incl'd g	5	3	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Membranous croup	4	—	1	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—
Erysipelas	33	3	15	9	6	—	—	—	—	—	—	—	—	—	—	—	—	—
Scarlet fever	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Enteric fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Relapsing fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Continued fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cerebro-spinal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Meningitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poliomyelitis	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ophthalmia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Neonatorum	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Encephalitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lethargica	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pulmonary Taberculosis	73	1	6	24	30	12	—	—	—	—	—	—	—	—	—	—	—	—
Other forms of Tuberculosis	11	1	1	—	6	2	1	—	—	—	—	—	—	—	—	—	—	—
Pneumonia	24	7	1	1	6	7	2	—	—	—	—	—	—	—	—	—	—	—
Malaria	—	—	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chicken-pox	57	15	37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Measles	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal Pyrexia	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	215	5	30	63	39	52	22	4	37	18	21	33	21	14	36	22	13	25

TABLE III. CAUSES OF, AND AGES AT DEATH DURING THE YEAR 1927. (see Notes next page).

CAUSES OF DEATH.	Net deaths at the subjoined ages of Residents whether occurring within or without the District.									Total Deaths whether of Residents or non Residents in Institutions in the District
	All ages	under 1	1 and under 2	2 and under 5	5 and under 15.	15 & under 35.	35 & under 45.	45 & under 65.	65 & upwards	
1	2	3	4	5	6	7	8	9	10	11
All Certified causes	600	28	7	8	8	34	30	135	350	86
Uncertified	9	1	—	—	—	—	—	2	6	—
1 Enteric Fever ..	—	—	—	—	—	—	—	—	—	—
2 Small-pox ..	—	—	—	—	—	—	—	—	—	—
3 Measles ..	—	—	—	—	—	—	—	—	—	—
4 Scarlet Fever ..	1	—	—	1	—	—	—	—	—	—
5 Whooping-cough ..	6	3	3	—	—	—	—	—	—	1
6 Diphtheria & Croup	2	—	—	2	—	—	—	—	—	—
7 Influenza ..	18	—	—	—	—	2	1	3	12	2
8 Encephalitis										
Lethargica ..	—	—	—	—	—	—	—	—	—	—
9 Meningococcal										
Meningitis ..	2	1	—	1	—	—	—	—	—	2
10 Phthisis (Pulmonary										
Tuberculosis) ..	34	—	—	1	2	16	7	6	2	23
11 Other Tuberculous										
diseases ..	1	—	—	1	—	—	—	—	—	—
12 Cancer, malignant										
disease ..	69	—	—	—	1	2	1	27	38	10
13 Rheumatic Fever ..	1	—	—	—	—	—	1	—	—	1
14 Diabetes ..	4	—	—	—	—	—	—	3	1	—
15 Cerebral										
Hæmorrhage ..	35	—	—	—	—	—	—	9	26	1
16 Organic Heart										
Disease ..	109	—	—	—	2	1	3	27	76	6
17 Arterio-Sclerosis ..	67	—	—	—	—	—	—	7	60	—
18 Bronchitis ..	68	2	1	—	—	—	3	13	49	—
19 Pneumonia, all forms	29	1	1	1	2	1	4	11	8	3
20 Other Diseases of										
Respiratory Organs	7	—	—	—	—	—	3	1	3	1
21 Ulcer of Stomach or										
Duodenum ..	1	—	—	—	—	—	1	—	—	1
22 Diarrhœa, etc.										
(under 2 years) ..	4	2	2	—	—	—	—	—	—	—
23 Appendicitis and										
Typhlitis ..	3	—	—	—	1	1	—	—	1	3
24 Cirrhosis of liver ..	—	—	—	—	—	—	—	—	—	—
25 Nephritis and										
Bright's Disease ..	11	—	—	—	—	—	1	3	7	6
26 Puerperal Fever ..	1	—	—	—	—	—	1	—	—	—
27 Other accidents and										
diseases of Preg-										
nancy and Partu-										
rition ..	2	—	—	—	—	1	1	—	—	1
28 Congenital Debility										
and Malformation,										
including Premature										
Birth ..	12	12	—	—	—	—	—	—	—	3
29 Suicide ..	4	—	—	—	—	2	—	1	1	—
30 Violent Deaths, ex-										
cluding Suicide ..	13	1	—	—	—	3	1	3	5	7
31 Other Defined Dis-										
eases ..	104	6	—	1	—	5	2	23	67	15
32 Diseases ill-defined										
or unknown ..	—	—	—	—	—	—	—	—	—	—
33 Polyomyelitis ..	1	1	—	—	—	—	—	—	—	—
	609	29	7	8	8	34	30	137	356	86

## NOTES TO TABLE III.

The classification and numbering of Causes of Death are those of the "Short List" on page XXV. of the Manual of the International List of Causes of Death.

- (a) All transferable deaths" of residents, *i.e.*, of persons resident in the district who have died outside it, are *included* with the other deaths in columns 2—10. Transferable deaths of non-residents, *i.e.*, of persons resident elsewhere in England and Wales who have died in the district, are in like manner *excluded* from these columns.

The total deaths in column 2 of Table III. should equal the figures for the year in column 12 of Table I.

- (b) All deaths occurring in Institutions for the sick and infirm situated in the district, whether of residents or non-residents are to be entered in the last column of Table III.
- (c) All deaths certified by registered medical practitioners, and all inquest cases, are to be classed as "Certified;" all other deaths are to be regarded as "Uncertified."
- (d) Deaths from Enteritis are included under Title 22, "Diarrhœa, etc. (under 2 years).



TABLE IV.

## INFANT MORTALITY DURING THE YEAR 1927.

NETT DEATHS FROM STATED CAUSES AT VARIOUS AGES UNDER ONE YEAR OF AGE.

CAUSES OF DEATH.		Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-3 Months.	3-6 Months.	6-9 Months.	9-12 Months.	Total Deaths
ALL CAUSES.	{ Certified .. Uncertified ..	7	4	3	14	4	5	4	2	29	
{	Small-pox .. .. .	-	-	-	-	-	-	-	-	-	-
{	Chicken-pox .. .. .	-	-	-	-	-	-	-	-	-	-
{	Measles .. .. .	-	-	-	-	-	-	-	-	-	-
{	Scarlet Fever .. .. .	-	-	-	-	-	-	-	-	-	-
{	Whooping Cough .. .. .	-	-	-	-	-	2	-	1	3	
{	Diphtheria and Croup .. .. .	-	-	-	-	-	-	-	-	-	
{	Erysipelas .. .. .	-	-	-	-	-	-	-	-	-	
{	Tuberculosis Meningitis .. .. .	-	-	-	-	-	-	-	-	-	
{	Abdominal Tuberculosis .. .. .	-	-	-	-	-	-	-	-	-	
{	Other Tuberculosis Diseases	-	-	-	-	-	-	-	-	-	
	Meningitis (not Tuberculous)	-	-	-	-	-	-	1	-	1	
	Convulsions .. .. .	1	1	-	-	2	-	-	-	2	
	Laryngitis .. .. .	-	-	-	-	-	-	-	-	-	
	Bronchitis .. .. .	-	-	1	1	2	-	-	-	2	
	Pneumonia (all forms) .. .. .	-	-	-	-	-	1	-	-	1	
{	Diarrhoea .. .. .	-	-	-	-	-	-	1	-	1	
{	Enteritis .. .. .	-	-	-	-	-	-	-	-	-	
	Gastritis .. .. .	-	-	-	-	-	1	1	-	2	
	Syphilis .. .. .	-	-	-	-	-	-	-	-	-	
	Rickets .. .. .	-	-	-	-	-	-	-	-	-	
	Suffocation, overlying .. .. .	1	-	-	-	1	-	-	-	1	
	Injury at Birth .. .. .	-	-	-	-	-	-	-	-	-	
	Atelectasis .. .. .	2	-	-	-	2	-	-	-	2	
{	Congenital Malformations .. .. .	-	-	1	-	1	1	-	-	2	
{	Premature Birth .. .. .	2	-	1	-	4	2	1	-	7	
{	Debility, Atrophy, and Marasmus	1	-	-	-	1	1	-	-	2	
	Other Causes .. .. .	-	-	-	1	1	1	-	-	2	
	Poliomyelitis .. .. .	-	-	-	-	-	-	-	1	1	
	TOTALS .. .. .	7	4	3	14	4	5	4	2	29	

Nett Births in the year	{	Legitimate .. .. .	546
	{	Illegitimate .. .. .	25
Nett Deaths in the year	{	Legitimate .. .. .	29
	{	Illegitimate .. .. .	Nil



BOROUGH OF TORQUAY



# **Meteorological Report**

**FOR THE YEAR 1927.**

**WITH EXTREMES AND COMPARISON WITH  
AVERAGES OF PRECEDING YEARS.**

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BY

**C. BELLINGER, F.R. Met. Soc.,**

Borough Meteorologist

*February, 1928.*

BOROUGH OBSERVATORY,

PRINCESS PIER,

TORQUAY

*To His Worship the Mayor, Aldermen and Councillors  
of the Borough of Torquay.*

GENTLEMEN,

I beg to submit the following Meteorological Report for the year 1927.

Observations have been taken twice daily throughout the year, at 9 a.m., and 5 p.m. (Local Time), and at 10 a.m. and 6 p.m. during Summer Time. The Readings at 9 a.m. have been posted each morning at the Observatory, Princess Pier, and various stations in the town; also at St. Mary-Church Town Hall. The Evening Readings have been telegraphed, as usual, in code to the Meteorological Office, London, from whence they are distributed to the various Press Agencies for publication in the morning papers. During the Summer Season, morning telegrams were also sent to the Meteorological Office, giving particulars of the weather at 9 a.m. This information was published in several of the evening newspapers.

Press telegrams are forwarded to the "Western Morning News and Mercury" and "Torbay Herald and Express" every morning. The Weekly Reports, besides being sent to the Meteorological Office, are also forwarded to the "Torquay Times" and "Torquay Directory," as well as several private individuals.

A weekly and monthly review of the type of weather experienced is published in the "Torquay Directory," "Torquay Times," and "Torbay Herald and Express."

As in past years, the Monthly Report, which shows comparison with previous years, is published in the local papers; also posted up at the Observatory and other

places in the town. Copies are also forwarded to the Royal Meteorological Society, British Rainfall Organisation, and the Torquay Natural History Society. A separate Monthly Report, giving our twenty-seven instrumental and other readings twice daily, is sent to the Meteorological Office, London.

The daily, weekly, and monthly records exhibited at the Observatory with the self-recording Thermograph and Barograph, are a source of considerable interest to visitors, for it is quite a common sight during the summer months to see fifteen to twenty persons reading the records displayed and commenting on the amount of sunshine and temperature experienced here compared with other places. Many visitors, before planning their daily itinerary, wait for the daily forecast to be posted.

The scheme of insurance initiated by the Pluvias Insurance Company and various newspapers and journals leads to a careful study of the daily rainfall, and many applications have been received for copies of our rainfall statistics.

The observations are also published, with others relating to the County of Devon, in the Annual "Climate of Devon" Report by the Devonshire Association.

Numerous private enquiries, newspaper articles, etc., concerning the climate here have also been replied to during the year.

Considerably over a thousand telegrams, reports and communications have been despatched.

I am, Gentlemen,

Yours obediently,

C. BELLINGER.

## OBSERVATORY AND INSTRUMENTS.

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Torquay is situated in North Latitude,  $50^{\circ}28'$ , and West Longitude,  $3^{\circ}31'$ . The town faces south-west being situated on the shores of Torbay. Many parts of the town lie on hills 200 to 250 feet above sea level, from which magnificent views of Torbay and Dartmoor can be obtained.

The geographical position of these hills is so situated as to protect the town from the cold winds of the north and east, while the River Dart to the west and south-west, the River Teign to the north, and the Bay to the south, have such a steadying effect on the climate that extremes of temperature are rare.

The Observatory is organised and maintained by the Town Council, and is under the supervision of the Meteorological Office, Air Ministry, London.

The several Barometers, Thermometers, and Rain Gauges have been verified at Kew Observatory, and are regularly observed by an Inspector on the staff of the Meteorological Office. Readings are all corrected for instrumental errors.

The Hygrometrical Results are deducted from the daily morning readings of the Dry and Wet Bulb Thermometers by means of Regnault's Tables.

The averages for Sunshine are the result of 28 years, for Temperature and Rainfall of 51 years, and for Pressure of 43 years' observations.

The following are the instruments and appliances in regular use, those being marked by an asterisk being the property of the Torquay Natural History Society, and lent by them to the town :—

\*The **Barometer** is a Fortin standard, and is read twice daily. All readings are corrected for Temperature and reduced to sea level.

Two **Barographs**. One is placed in the window of the Observatory, and the one presented by the late Sir Thomas Bazley, Bart., is exhibited at the entrance to the Pavilion.

A **Thermograph** is also placed in the window of the Observatory.

Two sets of **Stevenson's Screens**, each containing **Dry** and **Wet Bulb** and **Maximum** and **Minimum Thermometers**. One of these sets is at Cary Green where the official Temperatures for the Meteorological Office have been taken, and the other is now placed in Abbey Park Gardens Observatory.

**Rain Gauges** are of the Snowdon pattern. They are placed, one on Cary Green, where official records are taken, and another in Abbey Park Gardens Observatory.

**Grass Minimum Thermometer**, placed in Cary Green and Abbey Park Gardens Observatory.

**Sunshine Recorder** is a Curtis improved Campbell-Stokes instrument. This is situated on the cover shelter at the Southern end of the Princess Pier deck. The Sunshine Cards are forwarded at month ends to the Meteorological Office for examination and verification.

A 4ft. earth Thermometer is placed in the Abbey Park Gardens Observatory.

## ANNUAL REPORT, 1927.

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The general character of the weather for the year has been its cloudiness, breeziness, slightly cooler temperatures, and more rain than usual.

The mean temperature,  $51.8^{\circ}\text{F}$ . is  $0.6^{\circ}$  below last year's value, although slightly cooler on the year's values, is  $3.7^{\circ}\text{F}$ . above the average of 51 years. The summer months, July, August and September were disappointing, and recorded temperatures below the average, being less sunny than usual by an excess cloud amount, and cooled by the freshness of the breezes from the W., N.W. and S.E., and more rain days. Other months which were colder than usual and recorded temperatures below the average, were January, February and December. January was more sunny and with an average amount of cloud, but with more rain days. February was less sunny and same as regards cloud, but with less rain days, but December was a record month for dullness and coldness, but with less rain days, a good amount of snow fell on the 26th-27th, but did not lay long. The months which recorded temperatures above the average were March, April, May, October and November, these months also recorded sunshine above the average, but March and November had an over number of rain days, and April, May and October a lesser number. The highest shade temperature was  $75.2^{\circ}\text{F}$ . on July 10th, and the lowest  $29.5^{\circ}\text{F}$ . on January 20th.

The total sunshine was 1650.40 hours, which is 48.88 hours less than last year's total, and 138.0 hours below the average for 28 years. The sunniest month was June, 236.20 hours, and the sunniest day May 17th, 14.30 hours. The number of days on which sunshine was recorded was 301, against 298 last year. The months showing a deficiency of sunshine were February, April, July, August, September and December.

The total rainfall was 36.57 inches, which is 4.93 inches more than last year, and 2.73 inches above the average for 51 years. There was an excess of rainfall in seven months, viz. :— January, February, March, July, August, September and December, the latter month recording the highest amount, 4.54 inches, it was not the wettest month, because over 4 inches of this total fell in six days, and the remaining quantity spread over seven days. September records the next largest amount, 4.48 inches, with 21 wet days, which gives it the credit of being the wettest month. May, with 0.43 inch, which was much below the average, was the driest month of the year.



The barometric pressure was generally lower, being 0.552 inches lower than the average for 43 years. February, April, May, October and November were the only months to record pressure above the average. The highest corrected value was 30.600 inches on January 10th, and the lowest value 28.814 inches on December 22nd, giving an extreme range of pressure of 1.117 inches. The prevailing winds were from the N.W., W., S.W., S.E. and E.; very turbulent at times, records of gale force being observed other than at observations, but the mean force for the year was about 4, which is moderate.

The range of visibility has again been very good indeed. The fogs which are experienced being sea mists of varying intensity and of short duration.

The mean percentage of possible relative humidity of 81, is above the average, and is arrived at by the use of Regnault's Tables for computing the above value.

The total eclipse of the sun, visible as a partial eclipse at Greenwich, was not visible locally owing to the sky being clouded at the time of the eclipse.

The total eclipse of the moon on December 8th was seen locally.

On making comparisons with other resorts in all its aspects, it is an undoubted fact that Torquay is one of the sunniest towns in the British Isles, and does enjoy rightly the title of a "climate both sunny and equable." No more striking evidence of this can be given than the bad weather of the last month of the year, when severe extremes of weather were being experienced both near and far, yet Torquay's experiences were only about half as severe.

Observations have been discontinued in the Princess Gardens Observatory on my recommendation, owing to the enclosed nature of the site, and the growth of trees. The Corporation has decided to transfer the Observatory to Abbey Park Gardens, which is an excellent and open site. As well as the Thermometer Screens and Grass Minimum Thermometer, there will be the 4ft. Ground Thermometer, a Rain Gauge, and the Ozone Record, will be taken there.

It has also been decided that a Rain Gauge is to be placed at a suitable place on Babbacombe Downs.

I thought it would be an advantage to have Rainfall records from two distinct places and elevations. These new Observatory's will be ready for use early in the New Year.

Another new and important addition to the Records of Torquay is the observation of Ultra Violet Radiation of Sunlight, this has been brought about by the Medical Officer of Health Department of the Corporation, who have been experimenting for some time to gather the extent of these health-giving rays in the atmosphere of Torquay, the method adopted being that of a standard solution of Acetone Methylene Blue, contained in a 3 mm. quartz phial, which is bleached by the rays on being exposed to the light, and the result compared with a standard color. The results were encouraging and the Medical Department wished it to be more extensively and regularly observed in different situations, and elicited the interest of the Borough Meteorologist, who readily consented to assist in this important work which began in July and has been continued ever since. The results have been even more satisfactory, and sufficient to justify the interest of the Publicity Committee of the Corporation who saw fit to have the result of each day's readings sent to the "Times" newspaper for publication in their next day's issue, which has been done. Torquay is therefore one of the few towns reporting regular observations to the Physical Research Committee, under Professor Leonard Hill, F.R.S., and the results compare extremely favourably with the results of the other towns.

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## JANUARY.

So unlike the previous month, the weather of the New Year opened dull and cold, and the conditions during the whole month were more or less showery, with mild and very cold periods. The record of sunshine was above the average; as also the rainfall; the temperature being an average.

From the 1st, pressure began to fall and showery weather was predominant to the 6th; on the 8th pressure rose rapidly to 30.500 inches by the 10th, during this period and to the 12th the weather was dry and fine, with an higher temperature, the rise in pressure was of short duration, for by the 14th it had dropped to 29.325 inches, and with the exception of a temporary rise to 30.168 inches on the 19th, the pressure remained unsteady for the rest of the month, the 18th and 19th were the two best days of the month, being dry and cold; the 19th giving the most sunshine, from this day to the end of the

month the conditions were unsettled and showery with particularly heavy rains on the nights of the 20th (with hail and snow) and the 28th, which recorded 1.26 inches. There was a great fall of temperature from the 13th to the 22nd, the maximum temperature falling to  $39.5^{\circ}\text{F}$ , and the minimum temperature  $29.5^{\circ}\text{F}$ , there was a northerly current, and snow and sleet showers were experienced on the 13th and 21st. Warmer weather again prevailed from the 23rd to the 29th, but the last two days were cold.

The sunshine of 67.80 hours, was 13.35 hours above last year's total, and 5.23 hours above the average of 28 years. The greatest daily amount was 7.60 hours on the 19th. There were 6 sunless days, and the mean daily amount of cloud was 6.3. Although the sunshine average is good, we have many times recorded over 80.00 hours.

The rainfall of 3.97 inches was less than last year by 1.68 inches, but above the average of 51 years by 0.60 inches. The heaviest fall was 1.37 inches on the 28th.

The mean temperature,  $43.6^{\circ}\text{F}$ , was less by  $1.2^{\circ}$  than last year, and  $0.8^{\circ}$  below the average of 51 years.

The mean maximum temperature,  $48.2^{\circ}\text{F}$ , was  $0.6^{\circ}$  below last year's mean, as was the mean minimum temperature of  $39.0^{\circ}\text{F}$ ,  $1.9^{\circ}$  below. The highest maximum temperature was  $55.0^{\circ}\text{F}$ , on the 9th, and the lowest minimum temperature,  $29.5^{\circ}\text{F}$ , on the 20th. The minimum temperature was below  $32.0^{\circ}\text{F}$ , on two occasions only. The mean daily range was  $9.2^{\circ}\text{F}$ . There was ground frost on nine occasions, when the grass minimum temperature recorded  $30.5^{\circ}\text{F}$ , and below.

The atmospheric pressure was unsteady throughout the month, but was highest the first 12 days. The mean pressure of the month, corrected to sea level was 29.856 inches, which is 0.210 inches below the average of 43 years. Highest corrected reading was 30.600 inches on the 10th, and the lowest, 29.233 inches, on the 15th; giving an extreme range of pressure of 1.367 inches.

The wind force was for the most part moderate to fresh, but notably from the 24th to the 28th, very high winds to gales were experienced from the south west and S.S.E., the weather being very cyclonic. The prevailing winds were from the N.W., W. and S.W., and records show that it blew from the West 11 times, N.W. 16, S.W. 9, W.S.W. 6, W.N.W. 7.

The mean humidity of the atmosphere was 87% ; the mean daily amount of ozone at 9 a.m., 66%.

Hail was recorded on four days ; thunder, once ; fog, 4 days ; ground frost, nine days ; snow or sleet, twice ; gales, at four observations

## FEBRUARY.

The weather of the month was more normal, and in striking contrast to last year, when it was so mild. There was a fair amount of sunshine, but it was much below the average month of 80 hours and over. Barring a few slight rainfalls on five out of the first seven days of the month, the weather was practically dry, and fine up to the 18th, high pressure persisting to this date ; the weather was mild to the 8th, but very cold from this date to the 13th, and the 16th, 17th and 18th, then mild again to the end of the month. There were snow and sleet showers on the 13th and 21st. From the 19th onwards, conditions became unsettled, with a decided and quick fall in pressure from 30.300 inches on the 19th, to 29.050 inches on the 22nd, the pressure remaining low and unsteady to the end of the month, the weather being decidedly cyclonic, gales from the S.S.E. and S.W., with heavy rain, being recorded on the 22nd, 26th, 27th, 28th. A fine month with the exception of the last nine days.

The total sunshine of 66.36 hours, was 16.24 hours more than last year, but 18.20 hours below the average of 28 years. The greatest daily amount was 8.00 hours—on the 6th. The number of sunless days were seven, and the mean daily amount of cloud, 7.6. The total duration of sunshine to date is 134.16 hours and hundredths, which is 12.97 hours below the average of 28 years for two months.

The total rainfall of 3.27 inches, is 0.09 inches more than last year, and 0.35 inches more than the average of 51 years. The heaviest falls were during the days and nights of the 22nd and 23rd, the greatest night fall being 0.52 inches on this date. The number of days of rainfall was 15. The total rainfall to date is 7.24 inches, being 0.95 inches in excess of the average of 51 years for two months.

Atmospheric pressure was high from the 3rd to the 19th, and low for the rest of the month. The mean of the month corrected to sea level was 30.059 inches, which was above the average of 43 years by 0.088 inches. The highest corrected reading was 30.577 inches, on the 7th, and the lowest, 29.186 inches, on the 23rd, giving an extreme range of pressure of 1.391 inches.

The mean force of wind was high to moderate, and the prevailing winds blew from the N.E., S.W. and W., as the following records of principal observations show—N. 7, E. 6, W. 5, S.W. 5, S.S.W. 5, W.S.W. 4. The wind forces were greatest from the 20th to the end of the month. Gale force being recorded four days from the S.S.E., and S.W.

The mean temperature of  $43.0^{\circ}\text{F}$ , was  $5.0^{\circ}\text{F}$  less than last year, but  $0.3^{\circ}$  less than the average of 51 years. The mean maximum temperature of  $48.1^{\circ}\text{F}$ , and mean minimum temperature of  $38.0^{\circ}\text{F}$ , were respectively  $3.6^{\circ}$  and  $6.5^{\circ}$  less than last year's mean. The highest maximum temperature,  $54.7^{\circ}\text{F}$ , was on the 27th, and the lowest,  $31.0^{\circ}\text{F}$ , on the 11th. Lowest maximum temperature,  $38.1^{\circ}\text{F}$ , on the 8th, and the highest minimum temperature,  $49.0^{\circ}\text{F}$ , on the 28th. The mean of daily range being  $10.1^{\circ}$  and  $1.1^{\circ}$  above the mean average of 16 years. There was only one record of the minimum temperature being below  $32.0^{\circ}\text{F}$ .

The mean of humidity per cent. was 85, being on average with the past 16 years.

The mean daily amount of ozone at 9 a.m. was 56 per cent.

There was sea fog at observations on the 11th, 12th, 13th, 14th, 15th and 17th of only short duration, otherwise the visibility was good.

Ground frost was recorded on the 1st, 3rd, 7th, 11th and 12th, indicating that the grass minimum temperature was  $30.5^{\circ}$  and below ; the lowest reading was  $26.0^{\circ}$  on the 11th.

## MARCH.

The weather of the month was better than the rainfall record indicates. The first ten days were showery, and a greater amount fell daily during the last ten days, but fortunately the bulk of the fall was at night. From the 11th to the 20th was practically a dry period. A great number of the days were fine and sunny, which, together with the temperatures above the average, made the conditions quite pleasant and springlike. The weather of the month can be described as fine, sunny and generally mild, but with a rainfall above the average. The coldest part of the month was from the 11th to the 16th, and the warmest from the 18th to the 23rd, during which time truly springlike weather occurred ; the 20th and 21st being exceptionally fine, sunny and warm, and it is noteworthy that

although there was daily rainfall and cyclonic conditions at times the daily mean of sunshine from the 19th to the end of the month was  $5\frac{1}{2}$  hours. On the whole the temperatures were fairly equable and constant. Pressure was high from the 11th to the 20th, reaching its highest at 30.431 inches on the 19th; only 0.03 inches of rain fell during this period, and the wind was from E.N.E., E. and S.E. during this period, but from the S.W., W., and N.W. for the rest of the month.

The total sunshine for the month was 140.90 hours and hundredths, being 39.20 hours more than last year, and 5.91 hours above the average of 28 years. The greatest daily amount was 9.90 hours on the 20th, and no sunless days. Mean daily cloud amount, 6.4. The total duration of bright sunshine to date is 275.06 hours, which is 7.06 below the average of 28 years for three months.

Total rainfall of 3.93 inches, is 3.12 inches more than last year's total, which was extraordinarily small, but the difference in the average of 51 years shows an excess of 1.28 inches. The greatest fall was on the 22nd, 0.75 inches; there were 23 days of measurable rainfall. The total rainfall to date is 11.17 inches, which is 2.23 inches in excess of the average of 51 years for three months.

The atmospheric pressure was irregular during the first 10 and last 10 days, and there was a depression of  $1\frac{1}{2}$  inches in the period from 20th—25th. Pressure was high in the middle period of month, the highest reading corrected to mean sea level being 30.431 inches on the 19th, and the lowest reading 28.911 inches on the 25th, giving an extreme range of pressure of 1.520 inches. Winds were from the S.W., W. and N.W. Cyclonic conditions were experienced on the 23rd, 25th, 30th and 31st, with heavy rain.

Temperatures were above the average, the mean temperature,  $47.6^{\circ}\text{F}$ , being  $0.9^{\circ}$  above last year, and  $3.3^{\circ}$  in excess of the average of 51 years. The mean maximum temperature of  $52.2^{\circ}\text{F}$ , and the mean minimum temperature of  $43.1^{\circ}\text{F}$ , is respectively  $0.7^{\circ}$  and  $1.2^{\circ}$  more than last year. The highest shade temperature was recorded on the 18th,  $58.6^{\circ}\text{F}$ , and the lowest,  $36.0^{\circ}\text{F}$ , on the 11th. The lowest maximum temperature,  $46.9^{\circ}\text{F}$ , on 14th, and the highest minimum temperature,  $50.0^{\circ}\text{F}$ , on the 22nd. The mean daily range of temperature was  $9.1^{\circ}\text{F}$ , which is  $1.7^{\circ}$  less than the mean average of the past 16 years. There were only three ground frosts.

The mean temperature of the dry bulb thermometer was  $48.3^{\circ}\text{F}$ .

The mean humidity of the air at 9 a.m. 83 per cent., and 5 p.m. 76 per cent., giving a mean of 79 per cent., which is one per cent. above the mean of the past 16 years.

The mean daily amount of ozone at 9 a.m. was 76 per cent.

The prevailing winds were from the S.W., W. and N.W., and records at observation show that it was blowing from the S.W. 10 times, N.W. 14, W. 9, W.S.W. 7, S.E. 7. The mean force being moderate to fresh. Gale forces were recorded on the 23rd, 25th, 30th and 31st from S.W., W. and N.W.

Hail showers on 10th, 25th, 27th, 30th; thunder, once on 24th; fog, once on 20th.; ground frost, 10th, 11th, 28th; the visibility was good throughout.

## APRIL.

The weather of the month was fine, sunny and dry for the most part, with temperature above the average, but cooler than last year. As showing the dryness of the air, the relative humidity was as low as 56, 58, 61, 63 and 64 per cent. The main rainfall occurred during the first eight days, during which period pressure was rather irregular owing to secondaries passing in quick succession, but improved by the 10th, and reached its highest value on the 13th, 30.420 inches, after a temporary fall of 0.465 inches on the 14th and 15th; an equal rise quickly took place on the 16th, and from this date to the 22nd the influence of an anticyclone gave us very fine weather, but from the 22nd pressure began to fall slowly until by the 25th it had fallen to 29.684 inches; with a little deterioration in the conditions there being a slight rainfall, and fresh to strong winds to gale force from the W.S.W., W., N.W., on the 22nd, 23rd and 24th, but on the 26th pressure again improved to 29.905 inches, and was maintained to the end of the month, the last two days being extremely fine and sunny, there being over 13 hours on the 30th. The warmest period was from the 13th to the 23rd, and the coolest the first three days, and from the 8th to the 12th accentuated with north and north-east winds, and moderate from the 24th to the end of month.

The total sunshine of 179.56 hours, was 13.66 hours more than the total for last year, and 4.08 hours less than the average of 28 years. The greatest daily amount was 13.50 hours on the 30th. The number of sunless days two, the mean daily amount of cloud 5.9, and the total duration of bright sunshine to date is 454.62 hours, which is 11.14 hours less than the average of 28 years for four months.

The total rainfall of 2.13 inches is 0.13 inches less than last year, and 0.10 inches less than the average of 51 years. The greatest fall was on the 6th, 0.95 inches, and the number of days of precipitation 13. The total rainfall to date is 13.30 inches, which is 2.13 inches in excess of the average of 51 years for four months

Atmospheric pressure was low and irregular for the first ten days, and high for the rest of the month with the exception of temporary depressions on the 14th, 15th and 27th. The mean pressure corrected to sea level was 30.013 inches, which is 0.099 inches above the average of 43 years. The highest corrected reading was 30.420 inches, on the 13th, and the lowest, 29.423 inches, on the 9th, giving an extreme range of pressure of 0.997 inches.

The mean force of wind was moderate, but the wind blew strong to gale force on the 22nd to the 25th from the west and north-west. The main wind current was from the West 10 times, North-West 12, N.N.W. 7, N.N.E. 5, S.E. 5.

Temperature was above the average, but cooler than last year. The mean temperature of 49.2°F, was 1.1° below last year, but 1.1° in excess of the average of 51 years. The mean maximum temperature of 55.2°F, was 0.9° less than last year. The highest shade temperature of 67.3°F, was recorded on the 21st, and the lowest maximum temperature, 48.2°F, on the 2nd. The mean minimum temperature of 43.2°F, was 1.3° less than last year. The lowest shade temperature of 36.0° F was recorded on the 2nd and 27th inst., and the highest minimum temperature, 50.0° F, on the 22nd. The mean daily range was 12.0°.

The number of days on which ground frost occurred, *i.e.*, grass minimum therm at 30.5° F or below was two, on the 2nd and 27th.

The mean temperature of dry bulb thermometer, 50.9° F.

The mean humidity of the air at 9 a.m. 74 per cent, and at 5 p.m. 71 per cent.

The mean daily amount of ozone at 9 a.m., 70 per cent.

Hail was recorded once on the 8th.

The range of visibility was very good indeed.



## MAY.

The weather for the month can be described as dry, sunny, and generally warm. The cool ending of April continued for the first few days of May, but by the 4th temperature rose, and by the 6th the dry bulb recorded  $63.0^{\circ}\text{F}$ , and the maximum,  $71.0^{\circ}\text{F}$ , quite summerlike weather prevailed to the 10th, after which for a few days the temperature dropped below  $55.0^{\circ}$  air, and around  $60.0^{\circ}$  maximum temperature to as low as  $47.8^{\circ}$  air,  $54.0^{\circ}$  maximum and  $42.0$  minimum on the 11th, after which date the temperature became generally higher and more equable to the end of the month. The sunniest part of the month was from the 16th to the 25th, with a daily average of 11.14 hours, and the warmest from the 5th to the 9th and 20th to 28th. Pressure for the most part has been 30.000 inches and above.

The total sunshine of 229.28 hours was 32.38 hours more than last year's total, and 3.98 hours above the average of 28 years. The greatest amount in one day was 14.30 hours on the 17th, there was only one sunless day, and the mean daily amount of cloud was five. The total duration of sunshine to date is 683.90 hours, which is 7.16 hours below the average for 28 years for five months.

The total rainfall, 0.43 inches, is 0.40 inches less than last year's total, and 1.50 inches less than the average of 51 years. The greatest fall of 0.18 inches was on the 3rd inst., and the number of rain days were eight, which is five less than last year, and 10 less than the previous three years. The total rainfall to date is 13.73 inches, which is 0.63 inches above the average of 51 years for five months.

The mean temperature of  $56.0^{\circ}\text{F}$  was  $4.0^{\circ}$  in excess of last year's mean, and  $2.4^{\circ}$  above the average of 51 years. The mean maximum temperature was  $62.0^{\circ}\text{F}$ , is also  $4.0^{\circ}$  higher than last year, and the highest temperature recorded was  $71.0^{\circ}\text{F}$ , on the 7th, and the lowest maximum temperature,  $51.2^{\circ}\text{F}$ , on the 1st. The mean minimum temperature was  $50.0^{\circ}\text{F}$ , which was  $4.0^{\circ}$  more than last year. The lowest temperature was  $42.0^{\circ}\text{F}$ , recorded on the 12th and 14th inst, and the highest minimum temperature,  $58.0^{\circ}\text{F}$ , was recorded on the 1st inst. The mean daily range was  $12.0^{\circ}\text{F}$ , which was the same as last year.

The mean temperature of the air (dry bulb) was  $57.6^{\circ}\text{F}$ .

The atmospheric pressure was for the most part high throughout the month, the lowest pressures being about the 4th and last two days of the month. The mean of pressure reduced to sea level was 30.055 inches, which is 0.079 inches above the average of 43 years. The highest corrected reading was 30.439 inches on the 11th, and the lowest, 29.629 inches, on the 31st, giving an extreme range of pressure, 0.810 inches.

The wind, which was mainly from an Eastern quarter, was light to fresh in force, but an extreme force to gale was experienced from the S.E. on the nights of 2nd and 3rd, and from the West on the 16th. Records show that the direction of the wind taken at observations was from the S.E. 11, E. 9, N.W. 7, E.S.E. 5, S.S.E. 5 times.

The mean of relative humidity at 9 a.m. was 79 per cent., and at 5 p.m. 75 per cent.

The mean daily amount of ozone at 9 a.m., 60 per cent.

The range of visibility was extremely good, and on only one occasion was there fog (31st inst.), which was from the sea, and of short duration, and on a few occasions a little morning mist.

The weather of the month was generally good throughout,

## JUNE.

The weather of the month was again cooler than the average, due in a great measure to the prevalence of fresh to strong winds from the west and north west. Sunshine was a little above the average of 28 years, but considerably below last year's total. The first half of the month was finer, drier and cooler, and the second half less settled, showery and warmer, the temperatures being more equable in this half. The rainfall was a little lower than the average, and much less than last year's total. With the exception of the 16th when there was a fall of  $\frac{3}{4}$  of an inch, the general amount of fall was small in quantity, but occurred on a much greater number of days than the average. Pressure of the atmosphere was slightly below the average, was low at the start, but became higher and more constant between the 5th and 15th, after which date it was rather irregular, rising to its highest point on the 22nd and dropping to its lowest on the 30th, during this period there was a frequency of showers and high winds, which reached gale force on the 6th, 18th, 24th and 26th instant. Apart from sea fog of short duration on the 13th, 16th and 25th, the range of visibility was excellent.

The total sunshine for the month was 236.20 hours, being 46.30 hours less than last year's total, but 2.70 hours above the average of 28 years. The greatest daily amount was 13.90 hours on the 13th, there were no sunless days, and the mean daily cloud amount was 5.4. The total sunshine to date is 920.10 hours, which is 4.40 hours less than the average for 28 years for six months. In 1921 the record was 303.90 hours ; 1925, 349.20 hours.

The total rainfall for the month was 1.87 inches, which was 1.40 inches below last year's total, and 0.04 inch below the average of 51 years, the greatest fall was on the 16th, viz., 0.76 inch, and there were 17 days on which rain fell, 11 of which recorded 0.04 inch and upwards, the number of days of fall being much in excess of the average. The total rainfall to date is 15.60 inches, being 0.59 inch in excess of the average of 51 years for six months.

The mean atmospheric pressure reduced to sea level, was 29.994 inches, which is 0.079 inches below the average of 43 years. The highest corrected reading was 30.309 inches on the 22<sup>nd</sup> inst., and the lowest, 29.562 inches on the 30th, giving an extreme range of pressure of 0.747 inches. The mean force of the wind was moderate, but during the first week, and from the 16th to the 27th, the force of wind was from fresh to high, and recorded gale force on the 6th, 18th, 24th and 26th, the prevailing wind was N.W. and West, and the records show that it was blowing from the North-West at 17 observations, West 10, West North-West 7, West South-West 4, S. East 6. Pressure more constant first half, irregular second half.

The mean temperature was 57.0°F, being 0.1° below last year's mean, and 1.5° below the average of 51 years. The mean maximum temperature was 64.0°F, being 0.9° below last year's mean. The highest shade temperature was 71.7°F. on the 1st, and the lowest maximum temperature 57.3° F on the 7th. The mean minimum temperature was 51.0° F, being 0.2° below last year's mean. The lowest shade temperature was 45.5° on the 8th, and the highest minimum temperature 57.3° on the 21st. With a mean maximum temperature of 64.° 0 and minimum temperature of 51.° 0, gave a mean daily range of 13 0°, which is 1.0° less than the average of 14.0°

The mean temperature of the dry bulb was 59.4°F. The mean humidity of the atmosphere was 75%, being 77% at 9 a.m. and 73% at 5 p.m. readings, which is greater than the average of 70%.

The mean ground temperature, 4ft. deep was  $57.0^{\circ}\text{F}$ , whilst the highest temperature was  $58.2^{\circ}\text{F}$ , and the lowest  $55.3^{\circ}\text{F}$ .

The mean daily amount of ozone at 9 a.m. was 64%.

## JULY.

The cool and unsettled weather prevailing at the end of June continued into the present month with irregular low pressure, low temperature and rainy conditions, particularly so on the 4th and 5th, which was the coldest period of the month, there was not any effectual improvement until the 9th, when there was a gradual rise in pressure, continuous to the 15th, from 29.695 inches on the 9th to 30.225 inches on the 15th and 16th, which was the highest pressure for the month. Conditions were anticyclonic from the 13th to the 19th, with wind mainly from the S.E., the weather being drier in fact, from the 7th to the 18th rain fell on one day only. The temperature was generally speaking moderate, the highest maximum recorded being  $75.2^{\circ}\text{F}$  on the 11th, and round about this date there was an heat wave, which recorded a maximum temperature of over  $70.0^{\circ}\text{F}$  on four consecutive days, and the lowest minimum temperature recorded was  $52.4^{\circ}$  on the 18th, with these exceptions temperatures were in the main consistently moderate, but the coolest period appearing to be in the first week, and the warmest in the second week. The deficiency of sunshine was very marked, and on only three occasions did the amount exceed 10 hours. The rainfall was greater than usual, although July is always unreliable, it has during the past seven years recorded under one inch of rain on three occasions, and as much as 4.16 inches on another occasion, nevertheless this month the number of days on which rain fell has been slightly exceeded, the first six and the last nine days were changeable periods, rain more or less falling on consecutive days, the rainiest days being the 1st, 4th and 26th, recording .30, .43 and .53 of an inch respectively, the wind during these unsettled periods was principally from the S.W., fresh to strong and to gale force, being decidedly so on the morning of the 4th. The humidity of the atmosphere was greater than the average. The range of visibility was very good indeed. Thunder was heard on one occasion only.

The total amount of sunshine for the month was 172.40 hours and hundredths, being 62.10 hours below last year's total, and 62.24 less than the average of 28 years. The greatest daily amount was 13.70 hours on the 17th, there were two sunless

days. The mean daily was 5.56 hours. The mean daily amount of cloud was 6.8 against an average of 5. The total sunshine to date is 1092.50 hours, which is 66.64 hours less than the average for 28 years for seven months.

The total rainfall of 2.52 inches is 1.93 inches more than last year's total, and 0.31 inches above the average of 51 years. The greatest fall was .53 inch on the 26th, and the total number of days on which rain fell was 15. The total rainfall to date is 18 12 inches, being 0.90 inch above the average of 51 years for seven months.

The mean pressure, reduced to sea level was 29.889 inches, which is 0.116 less than the average of 43 years. The highest corrected reading was 30.225 inches on the 15th and 16th, and the lowest corrected reading on the 1st, 29.467 inches, giving an extreme range of pressure of 0.752 inches. Pressure was high in the middle of the month, and low and unsteady first, and larger and deeper depressions during the last 10 days, during which periods winds were very fresh and strong to gale force from the S.W. and W., there was a greater frequency of S.E. wind in the finer period. Records show that it blew from this direction 13 times, West S. S.W. 7, S.S.W. 6, W.S.W. 5.

The mean temperature of 62.5°F, was 1.5° less than last year's mean, but 0.7° above the average of 51 years. The mean maximum temperature was 67.6°, which was 2.4° below last year's mean. The highest shade temperature, 75.2° on the 10th, and the lowest maximum temperature, 61.1° on the 4th. The mean minimum temperature was 57.5°F., being 0.5° below last year's mean. The lowest shade temperature was 52.4° on the 18th, and the highest minimum temperature 62.0° on the 10th, showing a mean daily range of 10.1°, which is 2.0° less than the average.

The mean daily temperature (dry bulb), was 63.8° F.

The mean humidity of the atmosphere was 79 per cent., being above the average of the past few years of 73 per cent.

The mean humidity was 83 per cent. at 9 a.m., and 75 per cent. at 5 p.m.

The mean daily amount of ozone was 42 per cent.

Mean daily units ultra-violet rays by acetone methylene blue gauge method, 6.

## AUGUST.

The climatic conditions for the major portion of the month have been unsatisfactory ; the first few days and the last week were the best periods, being under an high pressure system, the highest for the month, and for the rest of the month, the conditions have been changeable, with frequent rain, much wind, and generally low temperature ; this unsettled state is accounted for by the persistent low and irregular pressure which prevailed from the 6th to the 24th inst. There has been a great deficiency of sunshine, and only on seven days was there a record of over 10 hours. The rainfall was much in excess of the average, but quite fortunately the main quantity fell during the night time, and only on one day, the 20th inst., did it rain all the day with a record of .41 inches, the other fairly heavy falls during the day time were .11 inches on the 13th and 18th, and .06 inches on the 24th inst., on other days only intermittent showers fell. These abnormal conditions, together with the breezy S.W., W., and N.W. winds, which reached gale force on five days, and strong to high winds on other days, had an adverse effect on maritime pleasures, notably on the 22nd inst. ; these conditions also affected the general temperature, which was for the period, 5th to the 15th, fairly equable and warm, and although high maximum temperature was recorded in the early days there was greater extremes of temperature which was also experienced from the 15th to the 25th, after which, there was a general rise in temperature to the end of the month.

The weather of the month can be described as cloudy, cool, showery, breezy.

The range of visibility was extremely good ; there were varying degrees of mist, but real fog was only experienced once, on the 31st inst.

Thunder was heard on the 18th and 24th.

The mean relative humidity was 81 per cent.

The mean of ozone at 9 a.m., 52 per cent.

The total sunshine recorded was 196.90 hours, being 29.80 hours less than last year, and 15.36 hours less than the average for 28 years. The greatest daily amount was 12.40 hours, on the 3rd and 12th inst. There was only one sunless day. The mean daily amount of cloud was 6.4. The total duration of sunshine to date is 1289.40 hours, which is 82.00 hours less than the average for 28 years for eight months.

The total rainfall recorded was 3.56 inches, which was 2.64 inches in excess of last year's total, and 0.89 inches in excess of the average for 51 years. The greatest fall was 0.75 inches on the 17th inst.; there were 20 days on which rain fell, and on 17 of which a quantity exceeding 0.04 inches fell. The total rainfall to date is 21.68 inches, being 1.79 inches in excess of the average for 51 years.

The mean height of atmospheric pressure reduced to sea level was 29.885 inches, which is 0.093 inches less than the average for 43 years. The highest corrected reading was 30.345 inches on the 3rd inst., and the lowest, 29.463 inches, on the 22nd inst., showing an extreme range of pressure of 0.882 inches.

Although the mean of wind force was moderate, there were very frequent fresh to high winds which developed into gale force on the 15th, 16th, 17th, 20th and 22nd inst. The gales were from the W. and S.W. Records show that the prevailing winds blew from the following directions:—W. 14 times, S.W., 10, N.W. 8, W.S.W. 5.

The mean temperature was 61.1° F, which is 1.9° F below the mean of last year, and 0.5° F. below the average for 51 years. The mean maximum temperature was 67.0° F, which is 3.0° below last year's mean. The highest shade temperature, 74.0° F, was recorded on the 5th, and the lowest maximum temperature, 63.0° F, on the 20th, 24th and 28th inst. The mean minimum was 56.0° F, which is 2.0° below last year's mean. The lowest shade temperature, 49.0° F, was recorded on the 25th inst., and the highest minimum temperature, 63.0° F, on the 5th inst. The mean daily range is 11.0°.

The mean temperature (dry bulb), 63.2° F.

The mean humidity of the atmosphere at 9 a.m., 84 per cent., and at 5 p.m. 79 per cent.

The mean ground temperature, 4 feet deep, is 62.3° F, and highest ground temperature, 63.0° F, and lowest, 61.1° F.

The mean daily units ultra-violet rays, by the acetone methylene blue gauge method is 5.60.

## SEPTEMBER.

The climatic conditions which prevailed during the month were generally unsatisfactory, and can be described as cool, changeable, cloudy, showery, and at times rain in large amounts. For the first few days the weather was fine and warm, the first day being one of the best of the month, after the 4th pressure began to fall, and from this date onwards was irregular, causing a frequency of windy, showery or rainy weather, with a lower temperature by strong west and north-west winds. The rainfall was much above the average, the number of days on which it fell being in excess of the average number; although it fell on so many days there were only six days on which the falls were greater than .24 inches, viz., 14th, 1.05 inches; 23rd, .87 inches; 6th, .81 inches; 21st, .38 inches; 29th, .25 inches. The sunshine record was much below the mean average, and only on two occasions was there a record above 10 hours. The cloud amount was above the mean average. Pressure was very irregular, due to depressions from the Atlantic, many V shaped depressions occurring, the deepest being 1 inch between the 20th and 28th, the lowest point being reached on the 24th, 29.214 inches, and rising to its highest point on the 28th, 30.257 inches. Temperatures were generally speaking much below last year's means, but the mean temperature was only 0.7° below the mean of 51 years. The highest temperature was during the first ten days and a period from the 19th to the 22nd, and rather more equable and lower temperature from the 12th to the 18th, and lower again and with greater extremes from the 23rd to the end of the month. There were frequent strong breezes to high winds, reaching gale force on the 19th from the N.W., and 29th from the S.W.

The visibility was extremely good generally, fog occurring on only one occasion, on the 4th.

Humidity, 83 per cent., was above the average.

The mean daily range of temperature was 10.3°, which is below the average,

The total sunshine for the month was 128.00 hours, which is 13.30 hours less than last year's total, and 36.40 hours less than the mean average of 28 years. The sunniest day was the 7th, with 12.00 hours, the number of sunless days were six, and the mean daily amount of cloud 6.2. The total amount of sunshine to date is 1417.40 hours, which is 118.40 hours below the mean average of 28 years for nine months.



The total rainfall for the month was 4.48 inches, which was 3.67 inches more than last year, and 2.22 inches above the average for 51 years. The greatest fall occurred on the 14th with 1.05 inches. There were 21 days of precipitation. The total rainfall to date, 26.16 inches, being 4.01 inches above the average of 51 years to date.

The mean height of atmospheric pressure reduced to mean sea level was 29.883 inches, which was 0.155 inches lower than the average of 43 years. The highest corrected reading was 30.257 inches on the 28th, and the lowest, 29.214 inches, on the 24th, giving an extreme range of pressure of 1.043 inches. Pressure was very irregular during the month, being particularly turbulent and unsettled between the 15th and 23rd. During this period fresh to strong winds blew from the S.W., W. and N.W., and there were gales recorded on the 19th and 29th. The main wind currents as recorded at observations were :—W, 11, N.W. 10, S.W. 10, N.N.W. 7.

The mean temperature was 57.6°F, which is 4.4° lower than last year's mean, and 0.7° lower than the mean average for 51 years. The mean maximum temperature, 62.8° F, was 5.2° lower than last year's mean. The highest shade temperature, 69.0° F, was recorded on the 1st and 2nd, and the lowest maximum temperature, 53.0°F, on the 24th. The mean minimum temperature, 52.5° F, was 3.5° below last year's mean. The lowest shade temperature was 43.0° on the 27th and 28th. The highest minimum temperature, 59.0°, on the 4th, 5th, 9th and 24th.

The mean daily range of temperature was 10.3°. The mean temperature of the dry bulb, 58.7°.

Mean humidity of the atmosphere at 9 a.m. 87 per cent, and at 5 p.m. 80 per cent.

Mean daily amount of ozone at 9 a.m., per centage of possible, 42 per cent.

Mean ground temperature, 4 feet deep, 60.3°. Highest ground temperature, 62.0°. Lowest ground temperature, 57.8°.

Mean daily units ultra-violet rays by acetone methylene blue gauge, 3.75.

## OCTOBER.

The weather from the 2nd to the 21st was mainly fine and dry, but after that date, unsettled, windy and rainy, and generally mild throughout.

The sunshine and temperature records were above the average, and the rainfall below, both in respect of the amount, and the number of days on which it fell.

The first two days were of an unsettled nature, but improved conditions set in on the 3rd, and under the influence of an anticyclone from the Atlantic, very fine weather prevailed to the 9th, with a mean daily of  $8\frac{1}{2}$  hours sunshine, although pressure became lower after this date, fairly fine, dry weather was maintained to the 19th, with quite small amounts of sunshine, with the exception of the 15th, which recorded 7.9 hours. During the very fine period wind was from the N.E. to S.E. direction, with an high day temperature and low night temperature, during the remaining period of dry weather, the wind seemed to be either N.E. or E. in the morning, and N.W. or N.N.W. by the evening, giving a rather lower temperature. The state of pressure from the 3rd to the 13th lay between 30.482 inches on the 6th, to 30.243 inches on the 13th, and a slightly irregular pressure of about four-tenths lower was maintained to 21st. On the 22nd pressure dropped  $\frac{3}{4}$  of an inch to 29.340 inches, which broke the fine spell, and caused unsettled conditions, heavy rain and high winds to gale force, the wind during this period being mainly from the S.W., this unsettled state continued more or less to the end of the month. Wind blew gale force on the 1st and 2nd, and also on the 26th, 27th, 28th and 29th, but the mean force of the wind for the month was moderate.

Temperature was much higher than the corresponding month last year. The mildest period was the first two days and the 8th and 9th, and from the 25th to the end of the month, the temperatures being exceptionally high both day and night, with a maximum of  $61.0^{\circ}\text{F}$  to  $64.0^{\circ}\text{F}$ , and a minimum of  $54.0^{\circ}$  to  $58.0^{\circ}$ . The coolest period was from the 11th to the 16th, with a maximum of  $53^{\circ}\text{F}$  to  $60.0^{\circ}\text{F}$ , and a minimum of  $45.0^{\circ}\text{F}$  to  $47.0^{\circ}\text{F}$ . The period of greatest extremes was from the 3rd to the 6th inclusive. The mean daily range of temperature being  $10.1^{\circ}$ , which is slightly above the average.

The mean daily range of visibility was fairly good. Fog being experienced on the 6th, 7th and 8th, being heavy sea mist in the evening on the 6th, and mornings of the 7th and 8th.

There was light mists mornings and evenings on several occasions.

The mean relative humidity of the atmosphere was 84 per cent, which is above the average. The mean daily amount of ozone at 9 a.m., 47 per cent.

The mean daily units ultra violet rays, by the acetone methylene blue gauge method, 3.15.

The total sunshine for the month was 120.10 hours, being 11.80 more than last year's total, and 5.87 hours in advance of the average month for 28 years. The greatest daily amount was 10.50 hours on the 3rd, there were five sunless days, and the mean daily amount of cloud 5.8. The total sunshine to date being 1537.50 hours, which is 112.53 hours below the average of 28 years for 10 months.

The total rainfall was 2.68 inches, being 0.8 inch less than last year's total, and 1.23 inches less than the average month for 51 years. The greatest fall was 0.91 inch on the 21st, and there were 11 days on which rain fell. The total rainfall to date is 28.84 inches, being 2.78 inches above the average of 51 years.

The mean pressure of the atmosphere, corrected to sea level, etc., 30.063 inches, being 0.133 inches above last year's mean, and 0.112 inches above the mean average of 43 years. The highest reading was 30.482 inches on the 6th, and the lowest 29.340 inches on the 22nd, giving an extreme range of pressure of 1.142 inches. Pressure was high during 11 out of the first 13 days, moderate in the middle period, and irregular from the 22nd to the end of the month. High wind to gale force during the first two days, and on the 26th, 27th, 28th and 29th, otherwise winds were light to moderate. The prevailing winds were observed to be blowing from the East 9 times, N.E. 7, S.W. 8, and S.E. 6.

The mean temperature, 54.2°F being 3.2° above last year's mean, and 1.7° in advance of the mean average of 51 years. The mean maximum temperature 59.3° F, which is 3.3° above last year's mean. The highest shade temperature was 64.0° F on the 31st, and the lowest maximum temperature 53.0° F on the 13th and 20th. The mean minimum temperature 49.2° F, was 3.2° above last year's mean. The lowest shade temperature being 43.0° F on the 3rd, 6th, 18th and 24th, and the highest minimum 58.0° F on the 27th. There was no ground frost. Mean daily range of temperature, 10.1° F.

The mean temperature (dry bulb),  $54.8^{\circ}$  F, being  $2.5^{\circ}$  F in advance of last year's mean. The mean ground temperature (4 feet deep),  $56.1^{\circ}$  F. Highest ground temperature,  $57.6^{\circ}$  F. Lowest ground temperature,  $55.0^{\circ}$ .

The mean humidity of the atmosphere, 84 per cent., was a little above the average.

Thunder was heard on one occasion, 21st. Fog occurred on three occasions, 6th, 7th and 8th, being heavy sea mist of only short duration, slight mist mornings and evenings on other occasions. With these exceptions, the range of visibility was very good.

There were gales recorded on six occasions.

## NOVEMBER.

The weather of the month was generally unsettled, showery and mild. The sunshine and temperature records were above the average, and the rainfall below, although the number of days on which it fell were greater. The high temperature at the end of October continued into the first four days of this month, being the warmest period of the month, the first 11 days, with the exception of the third, were showery, and heavier quantities of rain fell from the 17th to the 21st. The variation in atmospheric pressure throughout the month was very marked, and took the form of a raggedly made W, high at the beginning, middle, and end of month, the first depression was on the 6th, from 30.111 inches to 29.305 inches, and an immediate rise to 30.382 inches by the 13th, remaining high to the 16th, and again falling to 29.445 inches by the 21st, then a continuous rise to 30.415 inches on the 25th, and to its highest point, 30.491 inches on the 26th, and remaining over 30.250 inches to the end of the month. The wind during the first depression was mainly from the North and N.N.W. direction, with a variation to N.E., with showers each day, but nevertheless the period from the 6th to the 10th, was notable for very good amount of sunshine, the conditions at the second depression, 17th to the 21st, were very disturbed, being rainy and windy to gale force on the 20th and 21st, from the East and E.N.E., other occasions of high winds were at the beginning and end of month, and on the 29th touched gale force from the N.W. at times, otherwise the wind was light to moderate, the mean force for the month being light to moderate.

The temperature was a little above the average. The first four days recorded a maximum of  $61.0^{\circ}$  F, and a minimum of  $55.0^{\circ}$ , which was the highest temperature for the month, and the lowest was from the 8th to the 13th with a maximum of  $45.0^{\circ}$  F, to  $48.0^{\circ}$  F., and a minimum of  $33.0^{\circ}$  F to  $39.0^{\circ}$  F, with ground frosts at night. The 14th showed a decided rise in temperature which was more or less maintained to the end of the month with a maximum of from  $50.0^{\circ}$

to 58.0°, and a minimum of 42.0° to 50.0°, the night minimum on the 22nd to 24th was high at 50.0°, on occasions the temperature was equable and mild. The mean daily range was 9.4°, which is an average.

The range of visibility was remarkably good, there was sea fog on the 19th and 26th, of only short duration, and on other occasions slight morning and evening mists.

The mean relative humidity of 85 per cent. is above the average.

The mean daily amount of ozone at 9 a.m. was 43%.

The mean daily units ultra-violet rays by acetone methylene blue gauge method, 2.23.

The total amount of sunshine was 83.80 hours which was 8.50 hours more than last year's total, and 3.59 hours above the average month for 28 years. The greatest daily amount was 8.10 hours on the 11th, and the number of sunless days, 10, which is the same number as last year. The mean daily amount of cloud, 6.4, is above the average. The total amount of sunshine to date, 1621.30 hours, is 108.94 hours below the average of 28 years for 11 months.

The total rainfall of 3.19 inches, is 6.21 inches less than last year's total (which was an abnormal month), and 0.38 inch less than the average month for 51 years. The greatest fall was on the 18th, 0.53 inch, and the total days of rainfall, 21. The total rainfall to date is 32.03 inches, which is 2.40 inches in excess of the average of 51 years to date.

The mean height of atmospheric pressure, reduced to sea level, etc., 29.974 inches, which is 0.036 above the average of 43 years, the highest corrected reading being 30.491 inches on the 26th, and the lowest 29.305 inches on the 7th, showing an extreme range of pressure of 1.186 inches. Pressure was irregular, two very deep depressions of over an inch occurring. Wind force was not so turbulent as one would imagine, there were squally and high wind to gale force on the 20th, 21st and 29th, from the E.N.E., and N.N.W., but the mean force was light to moderate. Records of direction of wind at times of observation show that it blew from N.N.W. 10 times, N. 8, W. 6, S.W. 9, these were the prevailing winds.

The mean temperature, 47.6°F, is 1.1° higher than last year's mean, and 0.5° higher than the average of 51 years. The mean maximum temperature, 52.3°F, is 0.3° higher than last year's mean. The highest shade temperature is 61.0°F on the 3rd and 4th, and the lowest maximum temperature, 45.0° on the 13th. The mean minimum temperature, 42.9°F, is 1.9° higher than last year's mean. The lowest shade temperature, 33.0° on the 11th, and the highest minimum, 55.0° on the 2nd and 3rd. Number of days of ground frost (30.5° and below), six. Mean daily range, 9.4°.

The mean daily temperature (dry bulb), 47.2°F.

## DECEMBER.

The weather during the whole of the month has been extraordinarily dull, being the dullest December on record, only 29.10 hours of sunshine being recorded. A further record was the wintry conditions experienced from the night of Christmas day and throughout Boxing day, when there was a good fall of snow, so uncommon to this town, the snow laying for a few days. Temperatures were down to freezing point, but not long enough to allow of skating, nevertheless it was uncommonly low for Torquay, not since February, 1916, has so much snow been experienced. The weather up to the 19th was practically dry, with only .36 of rain, pressure was not in the least steady, and on the 14th rose quickly to 30.483 inches by the 17th, and on the 19th it began to deteriorate, heavy rain falling on the 20th, and by the 22nd pressure had fallen to 28.814 inches, and with it nearly two inches of rain in the two days, with high wind to gale force from the S.W.; weather continued very bad to the 25th with further heavy rainfall, over four inches having fallen from the 20th to the 25th. Temperature was high during this period. Pressure commenced to improve after the 25th, and by the 28th had risen to 30.449 inches, the wind having changed to N., N.E., and E.N.E., blowing continuously high and gale force each day, and very cold. There was a marked change in temperature during Christmas day, which turned the rain into snowfall, which continued throughout the night, and during some time on Boxing day, temperature having come down to freezing point, and remained nearly so to the end of the month. Temperatures were very variable throughout the month, being low during the first four days, with a maximum of 40.0° to 45.0°, and a minimum of 38.0°, between the 5th and 9th rose to maximum 51.0° to 53.0°, with minimum 43.0° to 49.0°, becoming variable and deteriorating by the 16th to a maximum of 41.0° with minimum 39.0°, and lower still on the 18th and 19th to maximum 35.0° with minimum 33.0°. Temperature suddenly rose on the 20th to a maximum of 51.0° to 54.0° next day, with a minimum from 37.0° to 50.0°, which was maintained to the 24th, and lowered again on the 25th and 26th to the 30th, with a maximum of 34.0° to 37.0°, with minimum 31.0° to 33.0°. The dry bulb temperatures being as low as 33.8° on the 26th, 32.6° on the 29th, and 30.8° on the 30th. The mildest period of the month was from the 5th to the 9th, 13th to 15th, and the 20th to 24th. The coldest period being from the 1st to 4th, 16th to 19th, 26th to 30th, the latter period being the coldest. There was slight snow and sleet showers on the 17th, 18th and 19th.

The total sunshine was 29.10 hours, which is 24.70 hours less than last year's total, and 29.07 hours below the average month for 28 years. The greatest daily amount was 6.80 hours on the 28th, there were 15 sunless days, compared with 10 last year, the cloud amount being 8.8 against 7 last year, and the average of 6.3. The total sunshine to date is 1650.40 hours, which is 138.01 hours less than the average of 28 years. The previous lowest record of sunshine for December was in 1912, when 40 hours was recorded.

The total rainfall of 4.54 inches, is 4.16 inches above last year's total (which was abnormally low), and 0.33 inches in excess of the average of 51 years. The greatest fall was 0.93 inches on the 22nd, and the total days of precipitation 13, which is below the average. The total rainfall to date is 36.57 inches, which is 2.73 inches above the average of 51 years to date.

The mean height of atmospheric pressure corrected to sea level, etc., 29.834 inches, which is 0.116 inches below the average of 43 years. The highest corrected reading was on the 17th, 30.483 inches, and the lowest, 28.814 inches, on the 22nd, showing an extreme range of pressure of 1.669 inches. Pressure was unsteady throughout with an intense depression of 1.669 inches on the 25th, causing extremely wet and windy weather. There were frequent northerly and N.E. and easterly wind, strong to gale force, also gales from the south-west, the succession of gales and high winds was very pronounced. The records show that the wind was blowing gale force on 13 occasions. The mean wind force was moderate to fresh. The records show that at observations the prevailing winds were from the N. 8, N.E. 9, S.E. 8, E. 9.

The mean temperature of 42.0°F is 0.5° below last year's mean, and 2.2° below the average of 51 years. The mean maximum temperature of 45.3°F is 1.7° below last year's mean. The highest shade temperature was 54.0°F on the 21st, and the lowest maximum temperature, 34.0°F, on the 29th. The mean minimum temperature of 38.8°F is 0.5° over last year's mean. The lowest shade temperature being 31.0° on the 30th and 31st, and the highest minimum temperature, 50.0°, on the 23rd. The number of days with minimum temperature below 32.0°, four. Number of ground frosts, 30.5° and below, five days.

The mean daily range of temperature, 6.5°, which is below the average of 8.3°.

The mean temperature of the dry bulb, 41.6°F., being 1.4° below the mean of last year.

The mean humidity of the atmosphere, 85 per cent., which is a little below the average.

Mean ground temperature, 4ft. deep, 47.2°.

Highest temperature                   ,,       49.2°.

Lowest temperature                   ,,       42.0°.

Mean daily amount of ozone   62 per cent.

Mean daily units ultra-violet rays by acetone methylene blue gauge, .84.

Snow or sleet, seven occasions; hail shower on 25th; ground frost, 19th, 20th, 28th, 30th, 31st; gales at observations, 26th, 27th, 28th, 29th, and nine times between observation hours.

## BAROMETRIC PRESSURE

Taken at 9 a.m. (Local Time). Princess Gardens Observatory.

In inches and thousandths.

Reduced to 32° F. and Sea Level.

1927	Mean of Month.	Difference from Average 43 years.	Highest Reading.	Date.	Lowest Reading.	Date.	Extreme Range of Pressure.
January ...	29.856	-0.210	30.600	10th	29.233	15th	1.367
February ...	30.059	+0.088	30.577	7th	29.186	23rd	1.391
March .....	29.745	-0.197	30.431	19th	28.911	25th	1.520
April .....	30.013	+0.099	30.420	13th	29.423	9th	0.997
May .....	30.055	+0.079	30.439	11th	29.629	31st	0.810
June.....	29.954	-0.079	30.309	11th	29.562	30th	0.747
July .....	29.889	-0.116	30.225	15th & 16th	29.467	1st	0.752
August.....	29.885	-0.093	30.345	3rd	29.463	22nd	0.882
September .	29.883	-0.155	30.257	28th	29.214	24th	1.043
October ...	30.063	+0.112	30.482	6th	29.340	22nd	1.142
November ..	29.974	+0.036	30.491	26th	29.305	7th	1.186
December ..	29.834	-0.116	30.483	17th	28.814	22nd	1.669
Year	29.934	-0.552	30.412		29.295		1.117
1926 Means	29.973	-0.167	30.423		29.446		0.977



## SHADE TEMPERATURES

Taken at 9 a.m. (Local Time)

AT CARY GREEN OBSERVATORY.

1927.	Maximum <i>mean.</i>	Minimum <i>mean.</i>	Max. & Min. <i>mean.</i>	Difference from Average 51 years.	Daily Range	Highest Maximum	Date.	Lowest Minimum	Date.	Lowest Minimum on Grass	Date
Jan. ...	48.2	39.0	43.6	- 0.8	9.2	55.0	9th	29.5	20th	25.0	19th & 20th
Feb. ...	48.1	38.0	43.0	- 0.3	10.1	54.7	27th	31.0	11th	26.0	11th
March.	52.2	43.1	47.6	+ 3.3	9.1	58.6	18th	36.0	11th	30.0	10, 11 & 28th
April ...	55.2	43.2	49.2	+ 1.1	12.0	67.3	21st	36.0	2nd & 27th	29.0	27th
May ...	62.0	50.0	56.0	+ 2.4	12.0	71.0	7th	42.0	12th & 14th	35.0	14th
June...	64.0	51.0	57.0	- 1.5	13.0	71.7	1st	45.5	8th	39.0	8th & 9th
July ...	67.6	57.5	62.5	+ 0.7	10.1	75.2	10th	52.4	18th	47.6	18th
Aug....	67.0	56.0	61.1	- 0.5	11.0	74.0	5th	49.0	25th	44.0	25th
Sept. ...	62.8	52.5	57.6	- 0.7	10.3	69.0	1st and 2nd	43.0	27th & 28th	37.0	27, 28 & 30th
Oct. ...	59.3	49.2	54.2	+ 1.7	10.1	64.0	31st	43.0	3rd, 6th 18, 24	36.0	3rd
Nov....	52.3	42.9	47.6	+ 0.5	9.4	61.0	3rd and 4th	33.0	11th	24.0	11th
Dec. ...	45.3	38.8	42.0	- 2.2	6.5	54.0	21st	31.0	30th & 31st	28.0	31st
Year	57.0	46.7	51.8	+ 3.7	10.2	75.2	July 10th	29.5	Jan. 20th	24.0	Nov. 11th
1926 Means	57.8	47.0	52.4	+ 1.5	10.7	82.0	July 14th	26.5	Jan. 16th	22.0	Jan. 16th



## RAINFALL

(In inches)

Records taken at CARY GREEN OBSERVATORY.

1927. MONTH	Monthly Totals	Difference from Average month, 51 years	Greatest fall in 24 hours. Amount and Date		Rainy Days		Number of days on which "Trace" only was recorded	Total Number of days on which rain fell	Difference from Average of 51 years to date
					Days of 0.01 to 0.03 in.	Days of 0.04 and upwards			
	Inches	Inches	Inches	Date					Inches
January ...	3.97	+0.60	1.37	28th	4	19	—	23	+0.60
February ...	3.27	+0.35	0.67	26th	4	11	3	15	+0.95
March .....	3.93	+1.28	0.75	22nd	5	18	—	23	+2.23
April .....	2.13	-0.10	0.95	6th	6	7	2	13	+2.13
May .....	0.43	-1.50	0.18	3rd	4	4	1	8	+0.63
June .....	1.87	-0.04	0.76	16th	6	11	2	17	+0.59
July .....	2.52	+0.31	0.53	26th	3	12	2	15	+0.90
August .....	3.56	+0.89	0.75	17th	3	17	2	20	+1.79
September	4.48	+2.22	1.05	14th	5	16	1	21	+4.01
October ...	2.68	-1.23	0.91	21st	1	10	—	11	+2.78
November	3.19	-0.38	0.53	18th	7	14	—	21	+2.40
December	4.54	+0.33	0.93	22nd	4	9	3	13	+2.73
Total .....	36.57	+2.73			52	148	16	200	+2.73
Mean ...	3.04								
1926 ...	31.64 2.63	-2.26			45	127	18	172	-2.26

## HUMIDITY, CLOUD, OZONE, WIND.

From Observations made at the CARY GREEN, and PRINCESS  
GARDENS AND PIER OBSERVATORIES.

MONTH	HUMIDITY.			CLOUD Cloud mean 0 to 10.	OSONE.	WIND.  Prevailing Quarters.	GRASS TEMPERATURES		
	Dry Bulb mean. Air Temp. 9 a.m., 5 p.m. readings	Wet Bulb mean. 9 a.m., 5 p.m. readings	Relative Humidity mean per cent Saturation 100		Percentage of possible.		Mean Daily Amount.	Mean.	Lowest.
	°	°	%		%				
January	44.0	42.4	87	6.3	66	W. & N.W.	34.2	25.0	9
February	44.0	42.4	85	7.6	56	N.E., S.W. & W.	35.0	26.0	5
March ...	48.3	45.6	79	6.4	76	S.W., W., N.W.	38.0	30.0	3
April ...	50.9	47.0	72	5.9	72	N.W., W. & N.N.W.	38.5	29.0	2
May .....	57.6	53.9	77	5.0	60	S.E., E., N.W.	46.0	35.0	—
June.....	59.4	55.2	75	5.4	64	N.W. & W.	47.1	39.0	—
July .....	63.8	59.5	79	6.8	42	S.E., S.E. & W.	54.3	47.6	—
August...	63.2	59.8	81	6.4	52	S.W., W. & N.W.	52.7	44.0	—
Sept. ...	58.7	56.0	83	6.2	42	S.W., W. & N.W.	48.9	37.0	—
October	54.8	52.5	84	5.8	47	E., N.E., S.E., S.W.	45.4	36.0	—
Nov.....	47.3	45.5	85	6.6	43	N.N.W., N., W., & S.W.	37.3	24.0	6
Dec. ....	41.6	40.3	85	8.8	62	N., N.E., E. & S.E.	36.6	28.0	5
Year...	52.8	50.0	81	6.4	57.8		42.8	24.0 Nov.	30
1926 Means	53.7	50.6	79	6.0	48		43.7	22.0 Jan.	26

MONTHLY MEANS FOR SIXTEEN YEARS  
1911-26 inclusive.

MONTHS.	TEMPERATURE OF AIR.				Humidity per cent.	Hours of Sunshine Hours & Hund'ths.	Cloud. Amounts 0 to 10.	RAIN.	
	Maximum.	Minimum.	Mean daily range.	Mean.				Days it fell.	Inches.
	°	°	°	°					
January .....	48.6	39.2	9.4	44.4	85	57.43	6.6	18	3.81
February .....	49.0	40.0	9.0	44.5	83	78.30	6.6	15	3.34
March .....	50.5	39.7	10.8	45.1	78	124.89	5.2	16	3.94
April .....	54.4	42.8	11.6	48.6	75	184.97	5.0	14	2.16
May .....	60.7	48.3	12.4	54.5	73	220.66	5.0	12	1.96
June.....	65.7	52.4	13.3	59.0	71	249.23	4.5	9	1.32
July .....	68.5	56.2	12.3	62.3	73	226.91	5.5	12	2.05
August.....	67.8	55.2	12.6	61.5	75	199.55	5.2	13	2.62
September.....	64.5	52.9	11.6	58.7	79	162.40	5.1	11	2.41
October.....	58.4	48.4	10.0	53.4	82	115.61	6.0	15	3.42
November .....	52.4	41.7	10.7	47.0	82	78.22	5.5	15	3.72
December .....	49.4	40.9	8.5	45.1	86	63.95	6.0	18	4.73
Year.....	57.5	46.4	11.1	52.0	78	1762.12	5.5	168	35.48

## OBSERVATIONS OF WIND DIRECTION.

Taken from PRINCESS PIER OBSERVATORY (9 a.m. and 5 p.m. G.M.T.)

1927 MONTHS	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	N. N.E.	E. N.E.	E. S.E.	S. S.E.	S. S.W.	W. S.W.	W. N.W.	N. N.W.	Calm.	Total Number Observations
January .....	4	—	—	1	—	9	11	16	2	—	—	1	—	6	7	5	—	62
February .....	7	3	6	3	2	5	5	3	1	1	2	3	5	4	1	4	1	56
March .....	3	2	3	7	1	10	9	14	—	3	—	—	2	7	1	—	—	62
April .....	4	1	—	5	1	4	10	12	5	2	—	3	1	4	1	7	—	60
May .....	1	4	9	11	3	4	3	7	—	4	5	5	—	1	—	5	—	62
June.....	1	2	4	6	1	2	10	17	—	—	2	4	1	4	4	2	—	60
July.....	2	—	3	13	4	7	8	5	—	1	1	3	6	5	1	3	—	62
August.....	—	2	4	5	3	10	14	8	—	1	—	3	3	5	1	3	—	62
September ...	1	2	2	5	1	10	11	10	1	2	—	—	—	6	2	7	—	60
October .....	3	7	9	6	—	8	5	5	2	—	—	1	1	5	4	5	1	62
November ...	8	1	4	5	2	9	6	4	1	3	1	1	1	4	1	10	—	60
December .....	8	9	9	8	—	3	2	3	—	2	5	3	2	1	2	5	—	62
Year.....	42	33	53	75	18	81	94	104	12	19	16	26	22	52	25	56	2	730
1926.....	50	35	83	60	35	55	133	90	9	21	13	19	9	29	42	13	13	

## OBSERVATIONS OF CLOUD AMOUNTS.

Cloud forms, higher and lower, and the direction they are moving, are also observed, and is a very important observation. Cloud amounts are of rapid change.

“0” indicates clear sky ; and “10” overcast sky.

1927 MONTH.	0.	1 to 3.	4 to 6.	7 to 9.	10.	Number of Observations.
January .....	3	18	5	10	26	62
February .....	4	4	6	11	31	56
March .....	1	16	9	19	17	62
April .. ...	5	16	11	5	23	60
May .....	11	14	9	8	20	62
June .....	3	15	22	6	14	60
July .....	3	8	14	18	19	62
August .....	1	12	16	16	17	62
September.....	1	20	7	10	22	60
October .....	12	9	8	11	22	62
November .....	2	14	8	11	25	60
December .....	3	2	2	9	46	62
Totals ...	49	148	117	134	282	730
1926 ...	78	127	113	145	267	

## WIND FORCES.

Observations taken at PRINCESS PIER OBSERVATORY.

Force 8 or more indicates gale, or strong gale ; 4—7, moderate to high wind ; 1—3, light to gentle breezes.

1927 MONTH.	Force 8 or more.	Force 4—7.	Force 1—3.	Calm.	Mean Daily Force	Total Number Obser- vations.	Prevailing Winds.
January .....	2	33	27	—	3.6	62	W., N.W. & S.W.
February .....	4	18	33	1	3.3	56	N., E., W. & S.W.
March .... ..	3	42	17	—	4.3	62	S.W., W., N.W.
April .....	—	44	16	—	4.0	60	W., N.W., N.N.W
May .....	—	43	19	—	3.8	62	E., S.E., N.W.
June .. .. .	—	47	13	—	4.2	60	W. & N.W.
July .....	—	40	22	—	3.9	62	S.E., W. & S.W.
August.....	—	42	20	—	4.0	62	S.W., W., N.W.
September ...	—	39	21	—	3.7	60	S.W., W., N.W.
October .....	1	29	31	1	3.8	62	E., N.E., S.E. & S.W.
November ...	—	29	31	—	3.4	60	W., N.N.W., N. & S.W.
December ...	4	38	20	—	4.6	62	N., N.E., E. & S.E.
Totals .....	14	444	270	2	3.88	730	N.W., W., S.W., S.E.
1926.. .. .	8	396	312	15			W., N.W., E.



OBSERVATION OF FROST, HAIL, SNOW  
AND SLEET, THUNDER AND LIGHTNING.  
FOG, AND STATE OF VISIBILITY.

(At 9 a.m. and 5 p.m. G.M.T.)

1927 MONTH.	Days of Frost.	Hail.	Snow and Sleet.	Thunder and Light- ning.	Fog.	Range of Visibility.	Duration of Fog.
January .. . . .	9	4	2	1	4	Very good	Short time SEA FOG
February .....	5	—	1	—	6	Very good	do.
March .....	3	4	—	1	1	Very good indeed	do.
April .. . . . .	2	1	—	—	—	Excellent	—
May ... .. . . .	—	—	—	—	1	Excellent	—
June .....	—	—	—	—	4	Excellent	Short time SEA FOG
July .....	—	—	—	1	—	Excellent	—
August.....	—	—	—	2	2	Excellent	Short time SEA MIST
September ...	—	—	—	—	1	Excellent	do.
October .....	—	—	—	1	3	Fairly good	do.
November ...	6	1	—	—	2	Very good	Short time SEA FOG
December ...	5	1	7	—	—	Fair	—
Totals ..	30	11	10	6	24		
1926 ...	30	12	5	9	24		

## METEOROLOGICAL ABSTRACT, 1927.

1926			1927
82.0°F.	Highest Shade Temperature	...	75.2°F.
26.5°F.	Lowest Shade Temperature	...	29.5°F.
57.8°F.	Mean Maximum Temperature	...	57.0°F.
47.0°F.	Mean Minimum Temperature	...	46.7°F.
52.4°F.	Mean Temperature	... ..	51.8°F.
10.7°F.	Mean Range of Temperature	...	10.2°F.
31.64 inches	Total Rainfall	... ..	36.57 inches
1699.47	Hours of Bright Sunshine	...	1650.40
298	Sunny Days	... ..	310
79	Mean Humidity	... ..	81
	(percentage of possible 100)		
48	Mean Ozone	... ..	57.8
	(percentage of possible 100)		
W., N.W., E.	Prevailing Winds	...	N.W., W., S.W., S.E.

TABLE SHOWING THE NUMBER OF HOURS OF BRIGHT SUNSHINE DURING  
1927 AT VARIOUS STATIONS, MOSTLY HEALTH RESORTS.

(From the Meteorological Office, Air Ministry Returns).

TOWN.	Jan.	Feb.	Mar.	Apl.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
Aberdeen ..	59.2	68.6	96.9	166.1	104.6	157.2	136.1	161.4	88.4	99.5	61.7	20.1	1219.8
Aberystwyth ..	38.8	88.2	101.9	147.4	211.8	175.5	124.5	154.8	106.6	116.6	66.5	37.6	1370.2
Arbroath ..	58.6	77.7	111.4	192.8	143.3	179.2	142.6	168.9	96.6	102.3	65.6	24.9	1363.9
Banff ..	48.7	87.2	136.1	152.7	119.8	184.2	149.9	165.0	87.1	99.4	49.5	20.5	1300.1
Bath ..	39.3	43.8	108.8	167.2	196.3	189.3	120.5	157.0	113.5	89.4	49.4	19.4	1293.9
Bexhill ..	61.2	71.1	142.9	192.0	266.4	209.6	156.2	197.5	119.8	118.6	68.1	38.9	1642.3
Berwick-on-Tweed	53.2	72.0	123.1	165.1	130.9	184.4	140.9	166.5	107.6	89.3	64.0	12.5	1309.5
Blackpool ..	33.7	61.0	116.9	156.2	199.6	186.9	149.0	150.9	111.6	110.7	70.3	26.2	1373.0
Bognor ..	66.6	68.8	160.0	197.3	258.8	213.7	146.5	194.9	125.3	128.4	66.3	43.3	1669.9
Bournemouth ..	68.9	63.8	134.5	181.7	251.2	200.6	129.4	191.9	119.9	129.5	69.6	27.3	1568.3
Bridlington ..	32.7	66.4	117.7	173.3	172.5	188.9	145.5	146.5	104.1	104.9	60.7	26.6	1339.8
Brighton ..	68.8	73.6	150.8	195.9	264.5	213.4	146.8	194.9	128.9	117.1	66.2	45.3	1666.2
Bude ..	50.3	92.3	134.8	145.1	195.2	219.2	154.0	204.8	117.2	137.4	49.6	36.9	1536.8
Buxton ..	18.6	43.5	75.5	131.0	142.1	151.3	112.5	118.7	93.3	73.6	47.1	13.7	1021.2
Carnoustie ..	54.5	69.6	113.7	180.5	141.1	181.0	140.5	148.9	95.6	97.8	59.1	21.5	1303.8
Cardiff ..	52.8	54.8	113.9	173.1	224.3	189.3	131.9	173.7	115.8	105.4	60.2	18.9	1414.1
Cheltenham ..	55.6	56.5	130.5	176.4	186.7	159.7	112.0	156.0	101.9	94.2	58.6	40.6	1328.7
Clacton ..	54.8	59.7	140.9	198.4	249.1	176.8	158.8	200.2	135.6	118.7	61.6	34.7	1589.3
Cleethorpes ..	61.0	64.1	140.4	162.9	147.9	191.0	144.5	153.9	97.4	98.3	61.3	28.8	1351.5
Clifton ..	50.9	52.5	127.6	184.7	192.0	172.9	121.0	157.6	115.8	97.3	53.4	15.2	1340.9
Colwyn Bay ..	41.1	86.4	94.5	139.8	202.5	166.6	142.2	139.3	108.1	111.5	43.4	32.3	1307.7
Copdock ..	48.7	45.9	117.6	170.3	224.3	178.2	140.0	174.5	107.3	102.2	57.7	34.2	1400.9
Cromer ..	60.5	68.4	136.1	166.2	179.7	169.8	138.6	185.3	114.6	118.9	60.3	42.6	1441.0
Deal ..	52.5	64.1	117.1	183.0	263.0	180.4	175.2	204.3	113.8	109.1	66.0	41.0	1569.5
Douglas ..	53.9	64.2	116.0	144.2	243.4	176.4	187.2	175.2	135.1	109.0	85.8	20.4	1517.8
Dover ..	56.9	63.9	123.6	197.4	260.0	178.9	160.8	188.4	122.2	120.1	62.7	49.4	1584.3
Dovercourt ..	54.7	54.5	143.2	192.4	241.9	189.3	166.7	208.7	92.0	111.8	59.9	36.5	1551.6
Dublin (Phoenix Park)	62.5	85.3	110.3	151.6	178.8	173.4	153.2	146.9	134.8	102.4	79.7	22.5	1401.4
Eastbourne ..	63.9	74.4	150.6	206.6	277.4	220.8	160.7	204.0	115.1	114.9	75.4	35.0	1698.8
Exmouth ..	60.5	62.6	107.7	154.8	206.6	188.5	138.6	161.2	88.1	110.4	69.0	22.9	1370.9
Falmouth ..	67.2	80.1	135.7	177.4	216.9	210.9	160.0	203.5	117.8	118.6	72.5	38.7	1599.3
Felixstowe ..	60.1	60.3	137.1	192.4	239.5	188.9	158.5	204.3	134.8	117.0	59.0	33.5	1585.4
Folkestone ..	51.9	67.4	120.9	190.3	263.1	189.8	153.8	186.3	121.7	113.0	61.9	47.3	1567.4
Fowey ..	59.1	77.1	124.2	165.8	196.7	202.8	149.2	174.5	119.5	127.0	70.1	34.8	1500.8
Guernsey (St. Peter Port)	52.0	95.3	128.1	201.8	268.7	248.9	167.9	239.3	119.0	137.3	61.4	31.3	1751.0
Harrogate ..	36.1	55.4	89.6	149.5	132.0	166.5	124.7	113.1	103.8	85.3	64.3	27.1	1147.4
Hastings ..	59.9	71.5	143.7	184.1	257.6	210.3	168.0	202.9	123.0	119.5	70.6	43.1	1654.2
Hoylake ..	59.5	70.7	121.4	151.3	202.1	193.2	151.2	162.1	122.7	128.0	67.3	26.4	1455.9
Hunstanton ..	54.6	59.0	145.8	170.6	190.2	183.9	147.4	193.2	107.9	113.5	62.3	47.6	1476.0
Ilkley ..	22.9	33.5	83.3	141.3	140.1	178.4	117.1	115.3	99.0	71.6	50.3	20.1	1072.9
Ilfracombe ..	26.0	68.7	126.8	142.4	211.9	195.9	139.9	182.8	85.8	124.0	43.2	22.3	1369.7
Inverness ..	31.1	94.7	123.5	130.2	140.6	159.7	145.3	146.6	72.5	89.8	55.3	41.2	1230.5
Jersey (St. Heliers)	54.9	100.9	130.3	189.0	249.8	221.3	141.6	215.0	105.0	147.7	62.7	41.7	1659.9
Keswick ..	18.5	51.5	64.5	111.6	164.8	140.5	142.7	139.4	98.0	91.0	42.6	25.9	1091.0
Leamington Spa	45.1	45.0	91.3	136.3	163.2	168.1	104.2	147.3	77.7	74.7	44.2	24.6	1121.7
Littlehampton ..	69.0	70.7	154.2	197.5	261.6	223.9	152.3	192.4	127.7	130.9	66.5	44.7	1691.4
Llandudno ..	45.7	82.0	103.5	153.2	220.0	186.9	159.9	153.6	123.2	119.8	51.2	32.2	1431.2

HOURS OF BRIGHT SUNSHINE, ETC.—*continued.*

Town.	Jan.	Feb.	Mar.	Apl.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
London—													
City ..	8.3	26.5	99.1	151.0	226.0	169.0	132.4	169.6	88.9	65.4	26.1	14.7	1177.0
Greenwich ..	39.4	35.2	114.1	137.6	202.7	141.3	132.3	188.6	99.7	66.3	28.7	38.1	1224.0
Hampstead ..	41.9	47.4	110.5	165.3	239.7	176.7	131.8	172.0	102.0	91.4	44.9	16.7	1340.3
Richmond (Kew)	51.2	34.4	117.7	170.4	238.1	161.4	126.7	172.5	93.9	70.2	43.2	29.2	1316.9
Westminster ..	29.6	26.7	101.3	159.0	227.1	167.5	130.6	168.4	101.9	61.0	28.6	17.3	1211.0
Lowestoft ..	64.6	72.4	144.3	171.4	205.7	175.3	167.5	211.5	127.3	119.9	54.7	30.5	1545.1
Malvern ..	58.2	56.3	129.5	176.8	188.9	165.7	122.5	152.1	111.9	95.0	57.1	19.0	1333.0
Margate ..	63.3	67.1	142.8	209.8	282.2	189.6	197.5	209.3	135.3	124.2	63.1	43.7	1727.9
Montrose ..	71.0	77.5	119.2	187.3	133.0	176.1	143.4	163.6	92.3	89.9	60.5	23.4	1337.2
Morecambe ..	38.1	57.8	120.7	157.8	191.6	200.0	155.1	151.8	116.2	109.9	72.3	40.3	1411.6
North Berwick ..	40.5	67.2	106.5	164.6	137.1	200.4	161.9	156.1	103.2	82.2	44.3	10.8	1274.8
Newquay ..	51.1	92.8	133.9	164.3	206.2	218.7	149.9	203.6	110.1	126.5	66.0	39.9	1563.0
Oban ..	18.3	43.8	99.4	133.7	229.0	199.8	150.7	127.8	97.6	82.6	52.6	35.8	1271.1
Paignton ..	62.9	66.7	125.1	177.5	224.5	234.6	171.0	199.3	122.0	112.2	80.8	24.7	1601.3
Penzance ..	67.8	81.4	128.6	174.8	191.4	196.1	156.6	214.7	123.4	111.0	66.8	40.3	1552.9
Plymouth Hoe ..	53.0	80.7	123.2	163.8	220.8	205.3	140.1	183.0	118.0	134.8	66.9	30.0	1519.6
Portsmouth ..	66.4	58.0	146.8	189.1	271.7	225.8	142.8	201.5	126.1	122.3	64.5	38.1	1653.1
Ramsgate ..	58.0	65.2	137.1	203.8	273.7	171.6	178.6	202.1	135.5	121.2	61.7	38.6	1647.3
Rhyl ..	49.0	80.5	116.2	149.9	227.4	220.4	168.4	160.8	126.0	121.9	60.7	32.2	1513.4
Ross-on-Wye ..	56.5	52.5	120.3	173.5	186.8	156.5	121.6	157.8	99.9	77.4	56.5	30.4	1289.7
Rothesay ..	30.0	41.0	121.6	148.1	220.1	200.8	141.7	145.8	105.3	90.7	57.3	32.8	1335.2
Ryde ..	56.6	46.2	106.0	166.0	233.7	225.4	151.0	222.5	115.8	112.2	61.8	32.6	1528.8
St. Andrews ..	59.6	68.9	121.1	179.0	127.7	194.0	138.5	142.2	93.9	93.8	55.8	15.9	1290.4
Sandown ..	66.0	50.6	161.0	194.8	262.6	238.4	148.1	220.8	131.3	119.5	67.2	29.0	1688.3
Scarborough ..	29.4	62.6	104.5	156.3	161.1	194.0	115.7	134.7	104.9	104.8	58.5	19.4	1245.9
Scilly ..	78.2	96.3	168.6	170.2	187.9	197.1	181.1	233.3	145.0	117.1	82.1	56.2	1713.1
Skegness ..	56.8	53.5	127.5	164.0	175.8	191.6	154.8	179.2	106.8	114.5	55.7	35.3	1415.5
Southampton ..	49.4	47.5	127.9	180.0	265.7	197.6	152.9	182.4	123.4	117.2	60.0	33.5	1537.5
Southend-on-Sea	59.4	53.5	136.6	189.1	270.0	191.7	156.1	199.4	124.0	106.4	56.7	37.3	1580.2
Southport ..	31.1	66.4	119.6	156.1	200.0	204.2	142.1	154.7	112.7	107.4	65.4	22.7	1382.4
Swansea ..	54.2	51.1	123.7	144.9	209.5	189.9	127.1	176.9	115.5	118.7	62.9	20.9	1395.3
Teignmouth ..	63.0	64.0	128.4	178.1	214.8	209.2	168.6	191.1	120.6	118.9	78.7	25.4	1560.8
Tenby ..	52.6	58.8	128.1	139.0	207.3	220.2	173.0	196.1	111.0	124.4	67.8	24.7	1503.0
TORQUAY ..	67.8	66.4	140.9	179.6	229.2	236.2	172.4	196.9	128.0	120.1	83.8	29.1	1650.4
Totland Bay ..	65.6	61.1	155.8	197.4	258.9	227.1	124.6	195.1	121.5	124.3	67.6	27.8	1626.8
Tunbridge Wells	63.1	59.7	129.7	172.9	261.5	191.2	151.2	176.5	113.6	111.5	51.6	44.7	1527.2
Valentia (Cahirciveen)	37.5	73.8	117.9	116.7	214.8	161.1	134.3	131.9	114.3	111.8	83.9	39.4	1337.4
Ventnor ..	73.2	64.2	172.5	215.9	270.9	254.4	140.2	212.6	126.9	131.1	76.7	33.0	1771.6
Ventnor Park ..	70.5	64.4	165.3	197.7	257.7	235.4	130.9	197.3	124.6	126.9	70.1	32.3	1672.3
Wallasey ..	40.5	55.2	102.7	139.1	184.9	167.7	126.2	148.1	107.6	95.5	55.1	6.2	1228.7
Walton-on-Naze	57.2	63.4	152.8	200.0	254.5	190.8	170.6	198.2	140.1	109.4	58.6	32.2	1627.8
Weymouth ..	67.0	62.3	160.0	194.4	260.3	237.4	148.6	209.4	122.7	132.7	71.7	26.2	1692.7
Woolacombe ..	26.1	56.4	116.4	131.5	191.2	193.7	136.9	170.5	80.9	116.0	45.3	31.3	1296.2
Worthing ..	73.0	74.1	153.5	209.2	267.3	226.5	162.1	200.4	126.7	125.9	68.1	44.6	1731.4
Yarmouth ..	66.0	65.6	140.9	159.8	201.4	172.5	170.3	208.0	129.4	113.5	56.8	29.5	1513.7









